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Manual of Nursing Techniques

PREPARED By
The Staff of
Fundamentals of Nursing
Section

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Dedicated to
the student nurse whose career
is interrupted by those some-
times joyful and sometimes
distressing events.

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Fundamentals of Nursing

INTRODUCTION

This manual of nursing measures is a collection of actions carried out by the nurse and in some instances by the physician with assistance from the nurse , such a manual sets forth action(s) of what -to-do , how -to-do-it and why -to-do-it .

The "why" is made up of many facts and Concepts which the teacher and the student bring together in their discussion of the meaning of the measure .

The teacher prepares for this discussion the same as for presentation of any other contents;So does the student .

In this way the manual becomes a tool the same as the textbook and other reference material . It is a unique tool if appropriately used ; it helps the student gain reasoning ability as he sees common elements among measures and thus develops judgment which will serve well during years for practice as materials and methods changes.

The Table of contents lists the major sections of the manual in order of appearance .

A measure (Procedure) is presented as follow: definition , terminologies (if any) , purposes , equipment , materials and supplies , procedure (direction in order of steps) , charting and recording and important points to remember .

All measures included in this manual are in accordance with the contents of Fundamentals of Nursing Course I and II , the practical part .

Medical Asepsis

Asepsis: Is the absence of organisms causing disease.

There are two types of asepsis

1. Medical asepsis
2. Surgical asepsis

Definition of Medical Asepsis

Refers to practices which help reduce the number and hinder the transfer of disease - producing Micro organisms from one person or place to another.

These practices are sometimes referred to as clean technique.

Purpose

1. To prevent the spread of disease - causing organisms (germs) and cross - contamination from one person (or place) to another.
2. To protect the nurse or other health personnel from disease - producing Micro organisms.
3. To keep Micro organisms within a given area.

Terminologies

1. Micro organism (organism)

A tiny living animal or plant that can cause disease, most are visible only with a Microscope.

2. Pathogen

A micro organism that causes disease.

3. Contamination

Means to make something unclean, such as area, equipment, if it contain Micro organisms that cause disease.

4. Disinfectant

A substance used to destroy pathogens but not necessarily their spores, in general not intended for use on persons.

5. Antiseptic

A substance used to destroy pathogens on living object such as skin and mucous membrane.

6. Disinfection

A process by which pathogens, but not spores, are destroyed.

7. Infection

The invasion of the body by disease - producing Micro organisms and the body's reaction to their presence.

8. Cross - Infection

Is an infection transmitted from an infected person or an object to other persons or objects.

Common practices of medical asepsis that we observe in everyday living.

1. Cover the nose and mouth when coughing and sneezing a cough and a sneeze force large numbers of organisms from the mouth, nose and throat into environment where they may be inhaled by others.
2. Wash hands before handling food to prevent spreading organisms from your hands to the food.
3. Use individual personal care items, such as towels, toothbrushes, combs, hair brushes, shaving gear, and

the like. This helps prevent spreading organisms from one person to another.

4. Wash hands after using the bathroom to prevent spreading organisms found in excretions.
5. Use water fountains instead of public drinking cups to protect yourself and others from organisms lodged on cups.
6. Use pasteurized milk that has had many organisms removed.
7. License food handlers and inspect public eating places for protection from persons carrying diseases and from poor practices of hygiene.
8. Control pests that may spread diseases, such as rats and mosquitoes.
9. Have regulations for immigrants and visitors who otherwise may enter the country with infections diseases that can spread to others.

Common Practices of Medical Asepsis in Patient's care.

1. Wash hands before and after giving nursing care or after handling equipment and supplies used for care.
2. Handle discharges as though they always contain pathogens. Discard them promptly and according to agency policy. Bandages tissues, and cotton balls are commonly used to absorb body discharges. They can easily spread organisms if not discarded properly.

3. Wrap damp or wet items. Such as dressings and bandages, in a waterproof bag before discarding them so that handlers of trash and garbage will not come in contact with body discharges.
4. Discard disposable equipment according to agency policy. All equipment used for patient care is considered contaminated after use.
5. Flush away contents of bedpans and urinals promptly, unless they are being saved for a specimen. With the possible exception of remote areas, it is considered safe to flush contents into the sewage system. Sewage treatment destroys pathogens.
6. Use equipment and supplies for one patient only. If they are reused by another patient, clean them thoroughly and then disinfect or sterilize them to prevent spreading organisms among patients.
7. Cover breaks in the skin with sterile dressings. Breaks in the skin are a good portal of entry for many organisms.
8. Use every precaution to keep food and beverages clean and fresh.
9. Keep soiled equipment and supplies, especially linens, away from your uniform so that you do not carry organisms from patient to patient and to yourself.
10. Consider the floor heavily contaminated Discard any item or clean it if it falls to the floor, before using it. Also, disinfect or sterilize it as necessary.

11. Avoid raising dust which can carry organisms. Use a vacuum cleaner and dampened or treated cloth to prevent organisms from being carried about with air currents.
12. Do not shake linens. This creates drafts that will carry contaminated dust and lint from place to place.
13. Clean the least soiled areas first and the most soiled areas last. This prevents having cleaner areas soiled even more by material from dirtier areas.
14. Pour liquids to be discarded, such as bath water and mouthwash rinsings, directly into a drain or toilet. Avoid spilling and splashing these liquids on yourself, the floor, and other equipment since they are very likely to contain pathogens.
15. Keep the patient's room as clean, bright, dry, and airy as possible since organisms do not grow well in such an environment.
16. If in doubt about whether an item is clean, or sterile if necessary, be safe and do not use the item until you have cared for it properly to help prevent the spread of organisms.

Common Practices of Medical
Asepsis in Personal Grooming

1. Keep your hair cut short or secured well if long. Some persons have questioned whether organisms grow on hair shafts, but most believe that hair that is allowed to hang long on the health workers' uniform

could serve as a vehicle for carrying organisms about. In addition, many patients find it offensive to have persons around them with long, loosely arranged hair, especially when food is being handled.

2. Wear only plain band rings on duty. Rings with stones or grooves are not recommended primarily because they are difficult to keep clean. Organisms can easily lodge in corners and crevices and be carried from person to person. Some people also are concerned because it is possible that some stones and grooves could scratch the patient.
3. Wear a wristwatch above the wrist high enough on the (forearm) so that it does not become contaminated when you are giving care. If the watch is worn near the wrist and is then pushed up higher on the forearm before washing the hands and wrists, the watch becomes contaminated by soiled hands.
4. Do not wear loose - fitting bracelets that pull about the wrists and hands. They can easily become contaminated. They may also be a source of danger when they catch on pieces of equipment.
5. Keep fingernails short and well groomed. The surfaces under the nails, ragged nails, and hang-nails are likely to harbor organisms that are difficult to remove but easily transmitted to others.
6. Follow agency policy concerning the use of nail polish. Chipped polish offers areas where organisms may harbor and they are then easily spread to others. Also, having chipped polish is poor personal grooming.

HAND WASHING

Definition

Hand washing is a measure carried out to remove micro- and Macro-pathogenic organisms from the skin by using soap, running water, and friction.

Purposes:

1. To remove the maximum number possible of pathogenic organisms present on the skin.
2. To prevent or reduce incidence of cross-infection.
3. To teach personnel, patient, and family good personal hygiene.
4. To minimize skin infections of the hands.

Equipment

1. Soap in a container or detergent in dispenser.
2. A sink with
 - a. A foot - controlled faucets, or
 - b. Elbow " " "
 - c. Hand " " "or a large pitcher of warm water and a basin
3. Water (preferably warm)
4. Paper towels
5. Nail file
6. Foot - controlled waste container or waste basket.
7. Hand lotion or cream.

Procedure

Objectives

1. Approach the sink. Don't allow your uniform to touch the sink during the washing procedure.
(The sink is considered contaminated, uniforms may carry organisms from place to place).
2. Turn on water to a gentle stream. If hand - controlled faucets are used leave water running throughout the procedure.
(organisms can accumulate on faucets and spread to others).
3. Regulate the temperature of the water so that it is comfortably warm, regulate the flow of water so that it does not splash from the sink.
(warm water makes better soap suds than cold water. Hot water tends to dry and chap skin by removing oils from the skin. Organisms can lodge in roughened and broken areas of chapped skin. Water splashed from the contaminated sink will contaminate your uniform).
4. Wet the hands and wrists under running water.
5. Apply detergent or soap from dispenser to hands. Spread the soap or its liquid over entire area of hands and wrists. Add water gradually to make plenty of lather. Lather the faucet.
(when bar soap is used, hold the bar in your hands during the entire washing period).
If the bar is dropped accidentally, start the washing procedure again.
(The soap dish, sink, and floor are considered contaminated soap will contaminate the hands).

6. With firm rubbing and circular motions, wash the palm and back of the hands, each finger, the area between the fingers, and the knuckles, and wrists.
7. Rub finger tips in palm of other hand to push sudsy solution under nails. Repeat this with other hand.

(Rubbing or friction is important because it loosens the germs and dirt from the skin).
8. After washing hands and wrists, rinse the bar well under running water and drop the soap into the soap dish without touching the dish.
9. Clean under the nails with the nail file carefully when hands are heavily contaminated and at least once a day before beginning work.

(Organisms can lodge and remain under the nails where they can grow and be spread to others. If a cleaning instrument is used carelessly, organisms, may lodge in injured areas and cause infection).
10. Rinse hand and faucets under running water allowing water to flow from the forearm to the finger tips. Keep hands slanted downward over sink when rinsing.

(Gravity will allow water and rinsing to drain from one area of less contamination (forearms) to an area of more contamination (hands) in to the sink. If hands accidentally touch the inside of sink, the procedure should be repeated).
11. Repeat washing procedure as indicated and especially if hands are contaminated with blood, pus, or drainage from wounds or body openings.
12. Dry hands with paper towel or with electric hot air dryer. Discard used paper towel in waste basket.

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13. If hand - controlled faucet was used, dry hands before turning off faucet, then use paper towel to cover hand - controlled and turn off faucet. Discard towel.
14. Apply lotion or cream over hands and wrists
(Lotion helps to keep the skin soft and easier to clean. It helps prevent chapping).

Points to keep in mind.

1. Hand washing is a must for all hospital personnel on arrival to the units and prior to leaving.
2. Hand washing is most essential before and after caring for any patient and at indicated intervals during care.
3. No jewelry other than the wedding band should be worn, because bacteria can become lodged in the crevices. The watch should have a stretch band which will allow it to be pushed up on the arm during hand washing and other procedure.
4. Manicuring and cleaning the finger nails should be done prior working hours as a part of daily hygiene.
5. Manicuring also prevents hang nails and skin abrasions.
6. Skin irritation predisposes to secondary infections. Rubber gloves help to protect open skin areas from becoming infected.
7. Instruct patients and their families on the principles of good hand washing techniques.

BODY MECHANICS

Definition :

Body mechanics is the term used to describe the physical coordination of all parts of the body (which are the bones, muscles, joints, nerves and the brain) to ensure correct posture and balanced effective movement.

AIMS

1. To keep important organs in their correct anatomical and physiological position, so promoting their normal functioning and preventing injury and deformity.
2. To facilitate good muscular control and the smoothness of movement which is so essential in the practice of the art of nursing.
3. To move and work with minimum muscular effort.
4. To make good impression on others and produce a feeling of self confidence.

GlossaryTerminology

1. Posture: is the relation of the various parts of the body at rest or in any phase of activity.
2. Alignment: Having part in proper relationship to each other.
3. Musculoskeletal system : The body's bones, joints and muscles .
4. Foot drop : A condition in which the foot falls forward, the toes often point outward.
5. Decubitus ulcers: An area of cellular necrosis caused by a lack of circulation to the involved area. Synonym for pressure sore and bed sore .
6. Range of motion : The normal extent of movement in a joint such as adduction , abduction .

Principles underlying body mechanics for the Express :

1. Maintain good posture . (Good posture reduces strain and help prevent injury to the musculo-skeletal system) . It helps maintain balance and keep body in good alignment .
2. Stand with one foot in front of the other in order to provide a broad base of support and balance . The stability of the subject is greater when there is a wide base of support .
3. Keep the work area as close to the body as possible . (Stretching and twisting , fatigue muscles quickly . When stretching or twisting balance will be poor as the line of gravity falls outside the body's base of support) .
4. Face the direction of the movement , turn your whole body including the feet when changing the direction . (Twisting the body causes strain on the muscles) .
5. Try to keep elbows close to the body when carrying an object . (This helps place the line of gravity within the body's base of support , stretching the arm outward while carrying an object strains arm muscles) .
6. Keep the work area at a comfortable height . (when the work area is too high , arm muscles are strained by stretching , when the work area is too low , back muscles are strained by bending over the work) .
7. Use the weight of the body both to push and pull an object , i.e. slide objects .

- (See Box 13: Principles of Safe Lifting)
8. Keep back straight and bend from the hip .
 9. Bend knees when lifting so using the strong and long limb muscles instead of the weak short muscles of the back .
 10. Ask for help if the weight you are trying to move is so heavy .
 11. Stand and work close to the weight or object you are trying to lift in order to prevent unnecessary strain on the muscles .
 12. Pulling or sliding an object requires less effort than lifting it , because lifting necessitates moving .

Guides for the nurse in assisting patients to assume different positions

1. Joints should be maintained in a slightly flexed position . Prolonged extension or hyperextension creates undue muscle tension and strain .
 2. Positions as close as possible to the basic anatomical position provide good body alignment , which is , of course , desirable .
 3. Positions should be changed frequently , at least every two hours . Prolonged pressure on one area of the skin may cause decubitus ulcers . The tolerance of the skin of individual patient is not generally known .
 4. All patients require daily exercise unless it is medically contraindicated .
 5. When a patient changes his position , his joints should be through the full range of motion unless this too is medically contraindicated .
- (See Box 13: Principles of Safe Lifting)
if all your class is there

- to do with patient care*
6. Grasp an extremity at the joint if the patient has muscle pain. Grasp an extremity above or below the joint if the patient has joint pain.
 7. Do not allow hands to rest on a pressure area or incision. *qui cts.*
 8. If a leg is paralyzed, make sure that it is properly supported during any movement, in some instances, it may be crossed at the ankle on top of the good leg. *also, also*
 9. Be careful not to bump the patient's feet or head when lifting him up or down in the bed.
 10. Instruct the patient to lift his head when he is being raised or lowered in bed in order to increase the ease and comfort of the movement.
 11. Whenever a patient cannot help himself to turn and move use a change sheet placed from the shoulder to below the knees to change his position.
 12. Whenever more than one person assist the patient to move, simultaneous motion is required for patient comfort, counting "one, two, more" is a helpful method of accomplishing this.
 13. Know the patient diagnosis, capabilities and any movement he is not allowed, for example, patients who have had injuries or surgery on bones or joints may not be permitted full weight bearing or certain movement.
 14. Explain to patient what you plan to do then use his ability to assist to the extent possible to decrease added work for yourself.
- do not pull patient*
do not pull patient

- Preparation of patient*
15. Elevate the patient's bed so as that you are working at a level that is safe and comfortable to you.
 16. Lock the wheels of the bed wheel chair, or stretcher so that they can not slide about as you move the patient.
 17. Remove obstacles that may make , turning,moving, lifting or carrying more difficult . For example, see to it that such furniture , as chair, bed side table, pillows, and over bed table are not in your way .

Equipment *What is required*

It depends on the position in which you are placing the patient.

1. Pillows - large and small .
 2. Bed board - if the mattress does not provide sufficient support , bed board may help to keep the patient in better alignment , bed board usually are made of plywood or some other firm material the size varies with the need of the situation.
 3. Hand roll - In resting position , the thumb is held away from the hand (slightly adducted) and at a moderate angle to the fingers . A roll may be a wash cloth or ball secured into the hand can be used to maintain this position .
 4. Bed siderails - are valuable to help patient in need of activity in bed,for example with side rails in place the patient can safely roll himself from side to side and sit up in bed .
- Preparation of patient*

5. Foot board and foot block - are used primarily to keep the feet in the normal walking position and prevent foot drop .
The board is placed between the feet of the bed and the mattress .
If the patient is short and cannot reach the board , a foot block can be used . (box or a wooden block covered with appropriate linen) .
6. Cradle - Is a frame usually made of metal and constructed so that it can be secured well under mattress . It is often used over patients with burns and with fractures of the leg .
7. Sand bags - Are used when an extremity need firm support . The leg can be held in good alignment by placing sand bags along side the outer surface of leg from hip to the knee or ankle .
When sand bags are properly filled , they are not hard or firmly packed but pliable enough to be shaped to fit body contours .
8. Trochanter Rolls - Are used to support the hips and legs so that the femurs do not rotate outward . (folded sheet , towels or a bath blanket) .
9. Doughnuts - For areas of pressure .

Turning , lifting the patient and helping him to move :

Generally patients assume the position which are most comfortable for them when able to do so by themselves . It is the responsibility of the nurse to help them to assume different positions if they are not able to do so by themselves :

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I. Helping the patient move to the side of the bed :

1. The nurse stands facing the patient at the side of the bed toward which she wishes the patient to move .
2. She assumes a broad stance with one leg forward of the other and with her knees and hips flexed in order to bring her arms to the level of the bed .
3. The nurse places one arm under the shoulders and neck of the patient and the other arm under the small of the patient's back .
4. She shifts her body weight from her front foot to her back foot as she rocks backward to a crouched position , bringing the patient toward her to the side of the bed . The nurse's hips come downward as she rocks backward .
5. The nurse then moves the middle section of the patient in the same manner by placing one arm under the small of the patient's back and one arm under the thighs, then the patient's feet and the lower leg are moved with the same motion .

II. Raising the shoulder of the Helpless Patient :

1. The nurse stands at the side of the bed and faces the patient's head . She assumes a wide stance with her foot that is next to the bed behind the other foot .
2. She passes her arm that is farther from the patient over the patient's near shoulder, and rests her hand between the patient's shoulder blades .
3. In order to raise the patient, the nurse rocks

backward , shifting her weight from her forward foot to her rear foot , her hips coming straight down in this motion .

III. Raising the shoulder of the semi helpless patient :

1. The nurse stands at one side , facing the head of the patients bed . Her foot next to the bed is to the rear and the other foot is forward . This position provides a wide base of support .
2. She bends her knees to bring her arm that is next to the bed down to a level with the surface of the bed .
3. With her elbow on the patients bed the nurse grasps the posterior aspect of the patients arm above the elbow , and the patient grasps the nurses arm in the same manner .
4. The nurse then rocks backward , shifting her weight from her forward foot to her rear foot and bringing her hips downward . Her elbow remains on the bed and acts as the fulcrum of the lever.

IV. Moving the helpless patient up in bed : (two nurses)

1. Remove the pillows . Place one pillow against the head board to prevent having the patient accidentally hit the head board as he is moved .
2. Have the nurses who are facing each other on opposite sides of the bed .
3. Place one arm under the patient shoulder and the other under his hips . Between the patients hips , joint hands under the widest part of the patients shoulders and hips .
4. Separate your feet flex knees and lean close to

the patient up on a signal rock toward the head of the bed while moving the patient up in bed .

V. Using a draw sheet pull to move a helpless patient up in bed : (two nurses) .

1. Place a sheet under the patient so that it extends from his head to below the buttocks .
2. Roll the sides of the sheet close to the patient so that they may be grasped easily . The wheels of the bed are locked . The patient's knees are flexed .
3. Stand at opposite side of the bed at a point near the patient's shoulder and chest and face the head of the bed .
4. Have a wide base of support with the leg nearest the bed behind them and the other leg in front .
5. Hold the sheet securely at a point near the patient's neck and the lumber region .
6. Lean first backward and then forward . As you rock forward the weight of your bodies helps to slide the sheet and the patient .

VI. Moving the semi helpless patient up in bed:(two nurses)

1. The patient flexes his knees, bringing his heels up toward his buttocks .
2. The nurses stands at the side of the bed, turned slightly toward the patient head . One foot is a step in front of the other, the foot that is closer to the bed being to the rear , her feet are directed toward the head of the bed .
3. The patient places his hand on the nurse's shoulder . The nurse places the arm nearest the

patient under the patient's axilla and the other arm holds the head of the bed .

4. The patient places his chin on his chest and pushes with his feet as the nurses shifts their weight from their rear foot to their forward foot.

VII. Helping the patient turn on his side :

1. The nurse stands on the side of the bed toward which the patient is to be turned . The patient places his arm across his chest and his far leg over his near leg . The nurse checks that the patient's near arm is lateral to , and away from, his body so that he does not roll upon it .
2. The nurse stands opposite the patient's waist and faces the side of the bed with one foot a step in front on the other .
3. She places one hand on the patient's far shoulder and one hand on his far hip .
4. As the nurse shifts her weight from her forward leg to her rear leg , the patient is turned toward her . The nurses hips come downward during this motion .
5. The patient is stopped by the nurses elbows,which come to rest on the mattress at the edge of the bed .

VIII. Turning the patient from his back on his abdomen :

1. Move the patient to the side of the bed as described above .
2. Put side rail if one nurse is moving the patient.
3. Go to the other side of the bed and place the patient arm near you under his buttock with the

palm up bring his leg over the leg near you and turn the patient face away from you .

4. Grasp the patient's far hand with your hand and his far hip with your other hand . Spread your feet , flex your knees , place on foot behind the other and gently pull and roll the patient toward you on to his abdomen .
5. Move the patient into the center of bed .

IX. Turning the patient from his abdomen to his back :

1. Put side rail on the side of bed .
2. Go to the other side of bed and place the patient's far hand under his far thigh , cross his near leg over his far leg , and turn the patient's face toward you .
3. Reach under the patient to grasp his far hand, place your second hand on his near hip , spread your feet , and flex your knees .
4. Pull the patient's hand while pushing on his hip and gently roll him away from you on to his back.
5. Move the patient into the center of bed .

X. Helping the semi helpless patient raise her buttocks:

1. The patient flexes her knees and brings her toward her buttocks .
2. The nurse faces the side of the bed and stands opposite the patient's buttocks . She assumes a broad stance .
3. With her knees flexed to bring her arms to the level of the bed , the nurse places one hand under the sacral area of the patient , her elbow resting firmly on the foundation on the bed .

4. As the patient raises her hips , while her arm acts as a lever to help support the patients' buttocks . The nurse's hips come straight down in this action . While the nurse support the patient in this position she can use her free hand to place a bedpan under the patient or to massage the sacral area .

XI. Assisting the patient to a sitting position on the side of the bed :

1. The patient turns on her side toward the edge of the bed upon which she wishes to sit . (see the procedure for helping the patient turn on her side) .
2. After ensuring that the patient will not fall off the bed , the nurse raises the head of the bed .
3. Facing the far bottom corner of the bed , the nurse support the shoulder of the patient with one arm , while with the other she helps the patient to extend her lower legs over the side of the bed . She assumes a broad stance , with her foot that is toward the bottom of the bed being to the rear of the other foot .
4. The patient is brought to a natural sitting position on the edge of the bed , when the nurse , still supporting the patients' shoulders and legs . Pivots her body in such a manner that the patients' lower legs are swing . The nurse's weight is shifted from her front leg to her rear leg .

XII. Assisting the patient to get out of bed and into a chair :

1. The patient assumes a sitting position on the edge of the bed and puts on shoes and dressing down .
2. A chair is placed at the side of the bed with its back toward the foot of the bed .
3. The nurse stands facing the patient , her foot that is closer to the chair is a step in front of the other , to give her a wide base of support .
4. The patient places her hands upon the nurses shoulders and the nurse grasps the patients waist.
5. The patient steps to the floor , and the nurse flexes her knees so that her forward knee is against the patients knee . This prevents the patients knee from bending involuntarily .
6. The nurse turns with the patient while maintaining her wide base of support . She bends her knees as the patient sits in the chair .

XIII. Lifting the patient from a bed to a stretcher : (Three man carry).

1. The three who are to move the patient face the side of the patients bed . Each assumes a broad stance , with his foot that is toward the stretcher being forward .
2. At the call of "one", the three bend their knees and place their arms under the patient . The first person places one arm under the neck and shoulders and the other under the small of the patients back / . The middle person places one arm under the

patients' hips and the other arm under patient's legs .

3. At the call of "two", the patient is turned toward those who are lifting him . The patient's arms should not be allowed to dangle freely. The lifters hold him close to their bodies in order to avoid backstrain .
4. At the call of "three", they rise, step back (with the forward foot) , and walk in unison to the stretcher .
5. At the call of "four", they bend their knees and rest their elbows on the stretcher .
6. At the call of "five", each lifter extends his arms so that the patient rolls to his back at the middle of the stretcher .
7. At the call of "six", each lifter withdraws his arms .

XIV. Assisting the patient to walk

The normal pattern of walking is to move alternate arms and legs . If the patient is quite weak to walk , the nurse stands along beside him keeping the arm which is near the patient under his arm . The advantage of this position is that if the patient feels like fainting, the nurses arm slides into the patients Axilla , the nurse throws one foot out to the side to make a wide base of support and rests the patient on her hip .

Body Position for comfortI. Standing position :

1. Keep the feet parallel , at right angles to the lower leg and about 10-20 cm apart . Distribute weight equally on both feet .
2. Bend the knees slightly to avoid the strain of locked knees .
3. Have abdomen in.(retracted) .
4. Hold the chest up and slightly forward and extend the waist .
5. Hold the head erect with the chin-in slightly .

II. Sitting position :

1. A good sitting position is like that described in standing position except the buttocks become the base of support on the chair and the knees are bent .
2. Support the back at the dorso-lumber junction .
3. The feet resting firmly on the floor at right angles to legs .

III. Dorsal position :

Is the position in which patient lies on his back with his head and shoulders are not elevated by pillows and rolls .

This position prescribed for patient who have had spinal anesthetics .

IV. The back lying (Supine position) (Dorsal recumbent position) :

In this position patient lies on his back .

1. Place a small pillow under the upper shoulder , neck and head , This will prevent flexion of the cervical spine .

2. Support the lumbar curvature of the back by a small pillow or a folded towel if necessary .
3. Place a small roll under the patient's thighs just above the popliteal space not directly under the knees . If the roll is placed directly under the knees and the knees are sharply flexed the pressure may slow circulation through blood vessels and cause pressure and injury to the popliteal nerve .
4. Place sand bags to trochanter rolls (is made from a bath towel) along side the hips and thighs to prevent external rotation of the femurs .
5. Use a foot board to hold the patient's feet at right angles to his lower legs in order to prevent foot drop .
6. Arrange top linens over a high foot board or cradle to prevent them from pressing down on the feet .

V. Prone position (Face lying position) :

The patient lies on the abdomen with the head turned to one side , put his arms above his head or along body .

1. Place pillow under the patient's head . Unless physician wishes the patient's head on a flat surface in order to promote drainage of mucous .
2. A small pillow or towel roll under each shoulder help to maintain the anatomical position .
3. Place a small pillow or pad under the abdomen at the level of the diaphragm in order to give support to lumbar curvature and , in the case of the female patient,to take weight off the breasts .

4. Elevate the patient toes off the bed and permit slight flexion of knees by placing a pillow under the lower legs .

Indications :

- a. For examination of patients spine and back .
- b. In case of back injury or an operation .
- c. Any treatment requiring this position such as giving I.M. injection .

Contraindications :

- a. Abdominal injury .
- b. Unconscious patient .
- c. Difficulty in breathing .

VI. Lateral position :

The patient lies on his side with both arms forward and his knees and hips flexed . The upper leg is flexed more than the lower leg .

1. Place a pillow under the head to prevent lateral flexion of the head .
2. Place a pillow to support the patient's arm to permit greater chest expansion and enables the nurse to observe character and rate of his respiration .
3. Place a pillow in a length wise behind his back.
4. Place pillow under the thigh , leg , and foot , supporting the upper leg in this manner prevent it from falling on to the bed and causing internal rotation and adduction of the femur .

Indications :

- a. Take weight off the sacrum of the patient .
- b. To facilitate some kind of drainage .
- c. For relaxation of patient .

VII. Fowlers position :

It is a sitting position which the head of patients bed is raised to at least a 45 degree angle .

1. Support the back and head with two pillows one under the lumber curvature and other under head and shoulder .
2. Support the forearms at patient side on pillow prevents pulling the shoulder out of their normal alignment .
3. Small pillows under the patients thighs permit slight flexion of the knees .
4. Support the feet with foot board permits dorsal flexion and prevents the patient from sliding toward the foot of the bed .
5. Weight bearing areas of the patient are the heels, sacrum and posterior aspects of the illium. Give particular attention to the weight-bearing areas when giving skin care .

Indications :

- a. Any condition requiring maximal chest expansion such as :
 - 1) Cardiac distress .
 - 2) Respiratory distress .
- b. Any treatment requiring this position such as oral hygiene , Gastric feeding .

VIII. Semi - Fowler position :

Is a modification of fowler position where the height of head of bed is about 30 degree angle .

IX. High - Fowler position :

It means that the head of bed is elevated about 90 degree angle .

X. Sims' position (semi - prone position) :

The Sims' position is similar to the lateral position except the patient's lower arm is behind his and his upper arm is extended above the head of patient. The upper leg is acutely flexed at the hip and knee, and the lower leg is slightly flexed at hip and knee.

1. A pillow for the patient's head will prevent lateral flexion.
2. A pillow placed laterally and in front of the patient abdomen will support the patient in this position.
3. A pillow for the patient's upper arm and upper leg will prevent adduction of these limbs.

Indications :

- a. Unconscious patient or inability to swallow.
- b. For free drainage of mucous.
- c. For maximal relaxation and comfortable sleeping position for many people.

XI. Trendelenburg position :

1. The patient lies on his back.
2. Elevating the feet and legs while keeping the trunk flat on the bed. The head may rest on a small pillow.

Indications :

- a. Post operatively such as, in case of surgery on anus.
- b. Shock and hemorrhage.

Body position for physical Assessment :

Several positions are commonly used during the physical assessment. The patient may need assistance to assume and retain some of these positions properly.

I. Anatomical position (Erect position) :

The patient stand with his hand at his sides, thumbs adducted and hand turned forward (supinated). The head is straight (erect). The feet slightly apart and directed forward . The knees and fingers slightly flexed . The spine , pelvis , legs and feet in good alignment . It is used to assess posture and general appearance and notices abnormalities ..

II. Sitting position :

The position is used to examination of the head and neck and the chest and lungs (back and front) . This position also used for examination of the reflexes, the extremities , the head , the neck , the eye , the ears , the nose and the throat .

III. Prone position :

The patient lies on his abdomen . The position is used to examine the back .

IV. The dorsal and supine position :

In this position the patient lies on his back in bed or on the examining table , his head may be supported with pillow , and his legs are extended or slightly flexed at the knees to relax the abdominal wall .

This position is assumed for examination of abdomen , the chest anteriorly and the breasts. This position may also be used for examination of the reflexes. The extremities , the head , the neck , the eye , the ears , the nose , and the throat if the person is unable to sit .

V. Sims' position :

The patient lies on either his right or left side. In the left sims' position , the patient lies on his left side and rests his left arm behind his body . The arm is forward with the elbow flexed and the arm resting on a pillow placed under the patients' head . The knees are bent , the right one sharply . In the right sims' position the placement of the extremities is reversed .

The position usually is assumed for a digital examination of the rectum or the vagina .

VI. Dorsal Recumbent position :

In this position the patient lies on his back with the legs well separated and knees bent , the soles of the feet rest flat on the bed or table . One pillow may be placed under the head .

A drape is placed diagonally over the patient with opposite corners protecting the legs and wrapped around the feet so that the drape will stay in place . The third corner of drape covers the patient chest, and the fourth corner is placed between the legs. It is raised and folded back on the abdomen to expose the part of the perineum being examined .

VII. Lithotomy position :

The patient is placed in the same position as dorsal recumbent except that the thighs and legs are more acutely flexed and the feet are supported in the stirrups . The patient's buttocks are brought to the edge of the table,draping is the same as for the dorsal recumbent position . This position is used chiefly for

examination and operation involving the reproductive and urinary tracts for both sexes .

VIII. Knee - chest position :

In this position the patient kneels with the buttocks upwards . The patients' chest and head rest upon the bed surface .

Drape patient adequately to prevent embarrassment and to provide warmth . If the health agency does not have special draps , the nurse can improvise with a draw sheet is placed across the patient , so that the lower edge just covers the buttocks . The corners are tacked around the medial aspect of the sheet, the anal area is exposed . The patient will generally need additional covering for his shoulder and a pillow for his head . This position is used chiefly in examination of the rectum and colon .

BED MAKINGDefinition :

The process of applying or changing bed linens to provide rest and sleep, which are two essential factors in treatment of illness.

Kinds of Beds :

- 1) Closed bed : The bed making process made after its occupant is discharged from the hospital, disinfected and properly cleaning the unit to be ready for a new patient.
- 2) Open bed : The bed making process when the occupant is able to be up while the bed is been made.
- 3) Surgical bed : The bed making process in which the bed is prepared to receive a patient with minimum disturbance after his return from recovery room.
- 4) Occupied bed : The bed making process in which the bed is made while the pt. is in it, and a great deal of activity is contraindicated for him because he is seriously ill.

Objectives :

- 1) To provide a clean and neat environment.
- 2) To promote physical and psychological comfort.
- 3) To prevent cross-contamination.
- 4) To make the bed without expenditure of time, energy and material.

Equipment :

The bed : There are many varieties of beds used in hospitals, most hospital beds are high and this permits patient care to be given easily without any back strain for the staff, but high beds are hazardous for patient who are allowed to get out of bed. For this reason adjustable beds are designed for ordinary pts, and special beds e.g. orthopedic bed.

Bed mattress : Hospital mattress is mostly covered with washable water proof covers , which are not removed unless damaged.

The pillow : May be firm or soft according to the materials used as filling, both types are necessary - the firm pillow for support and the soft for comfort .

Sheets and Blankets : Sheets vary greatly in design but are made from materials which can be laundered. In many hospitals the sheets and bed curtains are in matching materials.

The blanket should be light and warm and should be aired .

Closed Bed : Equipment used in Bed making :

- a. Pillow case .. 1 - 2
- b. Bed spread ..
- c. Blanket ..
- d. Top sheet ..
- e. Bottom sheet ..

Procedure :

1) Wash your hands before selecting linens , then take every thing needed to patient unit .

(In order to avoid the spread of microorganism by direct contact from the soiled linen to the nurse's hand and uniform) .

② Place linen on a straight surface, near foot of bed, arrange items in order of use, that is :

① Pillow case , in the bottom .

Bed spread .

Blanket .

Top sheet .

Bottom sheet .

(Arrange linen in this manner saves time and effort latter on) .

- 3) See that the bed is flat then adjust the height of the bed as desired .
- 4) Place folded sheet on near side of bed and unfold it without lifting or shaking or flapping it out .
(Lifting and shaking any items of linen may stir up dust and lint which may carry and spread organisms) .

ARRANGING SHEET IN THE MANNER

- a. With bottom hem even with foot of mattress depending on length of sheet .
- b. Allow 15 to 18 inches at head of bed to tuck under the mattress .
- c. With center of sheet at center of bed (placing the bottom sheet correctly is the most important step in bed making, never skimp on this allowance to be secure against any thing might loosen it .
- d) Lift the head of the mattress with near hand and pull sheet with other hand .
- e) Make witered corner at head of mattress .
- f) Continue tucking sheet under side of mattress from head to foot .
- g) Go to the other side of bed and tuck the head and the side of the sheet in the same way .
- h) Continue same side of bed place the folded top sheet on near side of bed and unfold it in manner described earlier, arrange it this way .
- i. a. With upper edge of sheet even with head of mattress and the rough hem up side .
- b. With center of sheet straight and at the center of the bed .
- j. Center folded blanket on bed , and unfold it so that upper edge is about 6 inches from head of mattress .
- k) Tuck sheet and blanket under foot of the mattress and make corner.Tuck under mattress at corner but don't tuck it along the side of the bed . Allow it to hang free . Fold the sheet back over blanket,making 6 inches cuff at head end

- 12) Place folded spread on bed and unfold it as described below :
 - a. The upper edge is even with head of mattress .
 - b. It is centered and hangs freely , covering the sheet and blanket completely .
- 13) Tuck bed spread under the mattress at foot of bed, make corner on near side .
- 14) Go to opposite side of bed and repeat steps to complete making the bed .
- 15) Rest the pillow on foot of bed and draw on pillow case in this way :
 - a. Slip your hand inside pillow case and grasp the inside seam at end of case .
 - b. Still holding inside seam , place this seam hand over the end of pillow and pull on pillow case .
 - c. Fit corners of case over corners of pillow .
- 16) Put pillow at top of bed with same side of case toward top and the open end away from door .
- 17) Turn spread over pillow if length is sufficient, otherwise place pillow over spread .

Open Bed : Equipment needed :

The same as in closed bed .

Procedure :

The same procedure plus these steps :

- 1) Place pillow at foot of bed .
- 2) Turn top of spread over edge of blanket ..
- 3) Turn top sheet over blanket and spread to make a cuff .
- 4) ^{left} Fan - fold top bedding for desired or convenient use .
Stand at side of bed , facing the foot . Using both hands to grasp across . Cuffed bedding , fan - fold bedding , as you walk toward foot of bed .
- 5) Replace pillow at top of bed .

Surgical Bed (Anesthetic Bed) : Equipment needed :

The same as closed bed , only we may need disposable water proof sheet or rubber draw sheet . *جایزه ای اور*

Procedure : *اس کے*

- 1) Place the bottom sheet in the usual way .
- 2) Place water proof draw sheet to cover and protect the upper part of bed . *اپر*
(This is done because a short draw sheet is more easily changed than an entire bottom sheet, when the patient is nauseated or vomited , therefore he will be less disturbed) *انداخت*
- 3) Place the top sheet in the usual way without tucking the end of it .
- 4) Place blanket over the top sheet , position bed spread over blanket in the usual way , except do not tuck in at foot of bed . *کھلکھل کر*
- 5) Make cuff at head of bed as described in closed bed .
- 6) Make cuff at the foot of the bed toward the head .
- 7) Go to the side of the bed , where the stretcher can be placed most easily, bring both corners to the center , fold back the cover .
- 8) Grasp the folded covers at the edge of the mattress with both hands and fold in your hands on the far side of bed .
(This is done for these reasons :
 1. To have top covers out of the way for the persons transferring post operative patient to the bed from the stretcher .
 2. To have top covers ready to pull over patient quickly so he won't become chilled .) .
- 9) Place pillow where it will be available , but out of the way until needed , leave patient without a pillow .
- 10) Arrange the chair and bedside table to allow room for the stretcher at the side of the bed .

Occupied Bed : Equipment needed : (clean linen according to patients' needs) .

- 1) Top and bottom sheet .
- 2) Pillow case for each pillow .
- 3) Linen hamper (if available) .

Procedure :

- 1) Wash your hands before selecting linens . Take everything needed to patients' unit and stack items on chair in order of use .
- 2) Provide for privacy by placing screen or pulling curtains.
- 3) Adjust the bed to level position . Remove all except one pillow under patients' head .
- 4) Loosen all bottom sheets all around the bed .
- 5) Grasp the top of the spread and the blanket , fold it and put it on near chair . If it is not to be used again, to fold and bunch it and drop in the linen hamper .
- 6) Raise the side guard on the far side, help pt. to roll toward it . Position him in a good side lying alignment.
- 7) Fan fold the used bottom sheet to the center of bed and close to the patients' back .
- 8) Place the folded clean bottom sheet on near side of bed , unfold it length wise in this manner :
 - a. Allow 15 - 18 inch. at head of bed to be tucked .
 - b. With center fold straight with mattress .
 - c. With bottom hem even with foot mattress .
 - d. Fan fold for half of sheet carefully to patients' back , smooth these folds under sheet to be removed .
- 9) Tuck the bottom sheet as you were taught to do .
- 10) Raise the side guard on your side and let the patient roll back toward you . Then go to the other side .
- 11) Lower side guard starting with soiled bottom , fold it and bunch it as you remove it from the bed .

- 12) Pull clean bottom sheet in place , tuck under mattress at head of bed , make mitered corner and tuck under mattress along side of bed .
- 13) Turn patient on his back in the middle of bed .
- 14) Place clean top sheet on near side of bed and unfold it on top of soiled top sheet , have patient hold upper edge of sheet while you fold the soiled top sheet to foot of bed and remove it .
(This is done to prevent exposing the patient).
- 15) Arrange top sheet to extend high enough to cover patient's shoulders , leave excess at foot of bed .
- 16) Before tucking sheet and blanket under foot of mattress , make a toe pleat to allow room for patient's feet when blanket is used , make the pleat in sheet and blanket together . The toe pleat may be made from the width of the sheet and blanket this is accomplished this way : Using both hands , pick up several inches of material to form a box pleat under the mattress at foot of bed .
(Tight top covers can press the pt. feet down into abnormal position causing foot drop to prevent this , you can use the foot board or make the toe pleat) .
- 17) Place folded bed spread near side of bed and unfold as described below :
 - a. With upper edge high enough to cover patient's shoulder.
 - b. Center it so it will hang evenly on both sides .
 - c. With excess at foot of bed to tuck under mattress and to loosen over patient's feet .
- 18) Tuck bed spread under mattress at foot of bed . Make a corner and do not tuck hanging part under mattress . Allow it to hang free .
- 19) Fold top edge of spread down under edge of blanket . If used turn edge of top sheet down over spread , making a cuff .

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Procedure - Making of Bed

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- 20) Go to other side of bed and repeat steps above to finish the second side of the bed .
- 21) Change the pillow case in the same manner described in closed bed, put it under the head of the bed .

MEASURING THE "VITAL SIGNS"**I Behavioral objectives :**

When the student has mastered content in this procedure, she / he will be able to :

- Define terms appearing in the terminology .
- List average normal ranges for adults for body temperature , pulse , respiration and blood pressure rates .
- Describe characteristics of normal pulse and normal respirations .
- List five situations when obtaining the body temperature orally should be avoided .
- List two situations when obtaining the body temperature rectally should be avoided .
- Describe how body temperature obtained using three different sites . The pulse rate using six different sites , the blood pressure using two different sites.
- Explain how to clean and disinfect a glass mercury thermometer .

II Terminology :

Continued Temperature : A temperature that remains constant and consistently elevated and fluctuates very little .

Crisis : A rapid drop of body temperature to normal .

Fever : Above normal body temperature . Synonym for Pyrexia .

Hypothermia : A body temperature that is below average normal range .

Intermittent Temperature : Periods of normal temperature broken by periods of elevated temperature .

Lysis : The gradual return of body temperature to normal .

Remittent Temperature : An above normal fluctuating temperature .

III Introduction :

The vital signs include the temperature, pulse, respiration, and blood pressure. They are the best indicators of how the body is working.

They are necessary in :

1. Making a diagnosis.
2. Planning program of care.
3. Seeing how the patient is progressing.
4. Seeing what is his reactions to specific medications treatment and care.

Body Temperature :

Is the degree of heat maintained by the body. Body temperature normally remains within a fairly constant range through a balance between heat production and heat loss that is regulated by a thermostat-like arrangement in the hypothalamus in the brain.

Body temperature is measured by a clinical thermometer. Thermometer is the instrument used to measure the heat of the body. The tip ends "bulb" of the thermometer vary, according to the method used to take the temperature.

The blunt bulb thermometer is used to obtain a rectal temperature; the shape of the bulb helps to prevent injuring or puncturing tissue when it is being inserted.

There are electric or electronic thermometers that measure body temperature in a matter of seconds.

Another type of thermometer indicates body temperature by color changes registered on heat sensitive paper.

Body temperature is recorded either in degrees of centigrade abbreviated $^{\circ}\text{C}$, or degrees of Fahrenheit

abbreviated $^{\circ}\text{F}$ to convert one degree from one system to another , you need to know the following Formula :

$$\left. \begin{array}{l} \text{From } ^{\circ}\text{C} \text{ to } ^{\circ}\text{F} \quad (^{\circ}\text{C} \times \frac{9}{5}) + 32 = ^{\circ}\text{F} \\ \text{From } ^{\circ}\text{F} \text{ to } ^{\circ}\text{C} \quad (^{\circ}\text{F} - 32) \times \frac{5}{9} = ^{\circ}\text{C} \end{array} \right\} ^{\circ}\text{F}$$

Methods of taking temperature are :

- 1) By mouth "Oral", which is the most used convenient way.
- 2) By rectum "Rectal", which is the most accurate way and is used for patients when greater accuracy is desired and when the oral temperature is inadvisable.
- 3) By axilla "In the armpit", which is least accurate and should be used only when neither of the other two methods can be used .

Normal body Temperature :

- * The average normal "Oral" temperature for adults is considered to be 37°C .
- * The average normal "Rectal" temperature is 37.6°C .
- * And the average normal axillary temperature is 36.4°C .
- * Variations in body temperature occur in each person and the range for oral temperature is from 36.5 to 37.5°C .

Factors affecting body Temperature :

1) Time of the day :

Body temperature has been observed to be lowest during the early morning hours , and highest during the late afternoon and early evening hours .

2) Physical Exercise , Food and Climate :

Exercise , life style , amount and cold or hot weather may influence body temperature .

3) Sex :

Body temperature rises as much as 0.6°C , approximately midway between menstrual periods and drops again just prior to menstruation .

4) Age and growth hormone :

Newborn babies and young children normally have a higher body temperature than adults .

Older persons tend to run a lower than average temperature .

When body temperature is elevated , the pulse and respiratory rates usually will be above normal also.

How to read a Temperature :

- 1) Stand in a good light in order to read the thermometer correctly .
- 2) Pick up thermometer at the end opposite the bulb, hold it between thumb and first two fingers on a level with the eyes . Never handle thermometer by the bulb end because this is the part that goes in the patients mouth.
- 3) Notice the lines and figures on the glass tubing .
- 4) Turn the ridge edge toward you , look for the column of mercury between the lines and the figure and note where it has stopped .
" Mercury is contained in the bulb and rises in the hollow glass tube . Heat expands mercury and this makes it rise in the glass tubing".
- 5) Read the scale to include the degree (Long line) and the nearest 2/10 of a degree (Short line) . " It may be necessary to roll the thermometer slowly back and forth to find the mercury".

Taking the temperature by mouth :

It is measurement of body heat by placing thermometer under the tongue .

Purpose :

To detect any change from normal body functioning , using a simple convenient , and comfortable method.

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Equipment :

- 1) Oral thermometer tray on which are placed the following articles :
 - a. Container marked "Clean" for clean thermometer .
 - b. Container marked "Soiled or contaminated" for used thermometers .
 - c. Closed container of clean , dry cotton balls .
 - d. Covered container with disinfectant solution " 1% iodine in 70% alcohol " , enough to completely cover the thermometers which are disinfected by immersion, or any chemical solution of the agency's choice for the length of time prescribed .
 - e. Clean oral thermometers , preferably one thermometer for each patient .
 - f. Container marked soiled for used cotton balls or (paper bags) .

Preparation of Disinfecting Solution for thermometers :

For preparing 100 cc of disinfectant you need
99 cc Alcohol 70% + 1 cc of iodine .

Procedure :

- 1) Preparation of equipment :
 - a. Wash hands .
 - b. Into container marked "clean" , place one gauze square.
 - c. Into container marked "soiled" or "contaminated" , place one gauze square , and soap solution sufficient to cover the length of thermometers .
 - d. Check clean thermometers to see that mercury is at 35°C or lower . When necessary, shake down thermometer this way .
 1. Stand in clear space away from furniture .
 2. Hold thermometer firmly between thumb and first two fingers .

3. Keep the wrist loose ; bring hand upward for an instant , then give the wrist a quick , vigorous jerk downward . Repeat if necessary until mercury falls to 35°C or below .
 - e. Place thermometer into "Clean" container .
 - f. Remove container of disinfecting solution from tray, and leave in utility room .
- 2) Taking the Temperature :
- a. Carry thermometer tray to patient's bedside .
 - b. Identify patient .
 - c. Explain to the patient what you will do .
 - d. Place the bulb end of the thermometer in the patient's mouth , well under the tongue , with the stem "Glass tube" coming out near the corner of lips .
Ask patient to press on the ^{stem} with the tongue .
 - e. Ask patient to keep lips closed .
 - f. Leave thermometer in place for a minimum of 3 minutes but preferably 6 - 9 minutes . Count pulse and respiration while taking temperature . Time each step accurately .
 - g. Remove thermometer from patient's mouth . Wipe thermometer once from stem end toward the bulb with a firm rotary motion with a dry cotton ball . Discard cotton ball in paper bag . Direction of wipe is again (as always) from the cleaner portion of thermometer to the less clean , as the bulb is highly contaminated with many organisms from patient's mouth .
 - h. Read thermometer . Shake it down .
 - i. Place thermometer in container for used thermometer or return to individual container .
 - j. Write " Record " down temperature (and pulse and respiration) promptly on the vital graphic sheet .

3) After care of Equipment :

When all temperatures have been taken, clean and disinfect the thermometers as follow :

- a. Carry thermometer tray to utility room .
- b. Wash each thermometer under cold , running water , using soaped cotton ball . Fold cotton ball around thermometer and wipe downward with firm rotary motion , using friction .
- c. Discard cotton ball after wiping each thermometer .
- d. Rinse each thermometer thoroughly under cold running water . " Soap left on thermometer will hinder the disinfectant solution in taking effect .
- e. Place rinsed thermometers in container with disinfectant solution . " Never rinse thermometer in warm or hot water ".
- f. See that thermometers are completely covered and leave for at least ten minutes .
- g. Remove thermometers from the solution.Pick up each one by the end opposite the bulb and rinse under cold running water as before. This is because the disinfectant may be irritating to mouth and unpleasant to taste .
- h. Place in covered container for clean thermometers after wiping them with individual cotton balls .
- i. Cover tightly the container of disinfecting solution and place on tray .

Points to Remember :

- 1) Taking a temperature by mouth is NOT advisable for the following patients , because the Thermometer is likely to be broken which may result in a serious accident.
 - a. Unconscious , irritable , or confused patients .
 - b. Mentally ill or depressed patients .
 - c. Small children .
 - d. Patient who must breath through the mouth .

- e. Patient who cough frequently .
 - f. Patient who have a disease or a surgery of the mouth .
 - g. Patient who are too ill, weak to hold the thermometer in the mouth .
- 2) Temperature should not be taken within one half hour after food , drink , or medicine has been taken .
(This is because hot and cold in the mouth has an effect on how thermometer registers) .
 - 3) Always handle thermometer by the end opposite the bulb end . NEVER touch the end that has been in the mouth with your fingers .
 - 4) If the patient is out of bed , have him sit on a chair , while the temperature is being taken .
 - 5) Once each week , discard disinfectant solution , and sterilize disinfectant container and cover . Place sterile gauze square on bottom of container and add freshly prepared disinfectant solution . During the week , if amount of disinfectant solution in container decreases by evaporation , etc. Add to that which is present from a closed bottle of prepared solution kept in the treatment room .

Taking the Temperature by Rectum :

Is the measurement of body heat by placing thermometer into the rectum .

Purpose :

To measure body temperature :

- 1) When a more accurate reading that can be obtained by oral method is desired .
- 2) When the oral method is contraindicated .

Equipment :

The same as the oral method , plus :

- 1) Clean rectal thermometer preferably one thermometer for each patient .
- 2) Closed container of vaseline for lubrication of thermometers .
- 3) Gauze squares or toilet tissues .

Procedure :

- 1) Preparation of equipment :

Same as for oral temperature .

- 2) Taking the temperature :

- a. Carry thermometer tray to patient's bedside .
- b. Identify patient .
- c. Explain to the patient what you will do .
- d. Lubricate the bulb of the thermometer by using a small of lubricating jelly on tissue wipe . " If thermometer is dipped into lubricant , this will contaminate the entire supply , making it unfit to use for other patients .
- e. Screen patient .
- f. Put patient in Sims position and turn back top covers at side of the bed . Do not expose patient unnecessarily .
- g. Gently draw buttock upward to expose opening , insert thermometer about one inch, very carefully . " Do not try to insert thermometer without clearly seeing the rectal opening "
- h. Hold in place for about 2 - 3 minutes . (Hold the thermometer in place if the patient is confused or restless , if the patient is a child or infant or if the patient has a tendency to expel thermometer .) .

- i. Remove thermometer , wipe clean from top toward bulb end with clean cotton ball. Discard cotton ball after each wipe .
 - j. Read thermometer , and keep the reading in mind.
 - k. Place thermometer in container for used thermometers .
 - l. Wash your hands thoroughly .
 - m. Leave patient comfortable .
 - n. Record temperature on patients grafic sheet . Indicate rectal temperature by (R) over the recorded temperature .
 - o. Count pulse and respiration then record them .
- 3) After care of Equipment :

Same as for mouth thermometer, but use separate cleaning articles and containers for solutions . Do not mix mouth and rectal thermometers during cleaning and disinfecting process .

Points to Remember :

- 1) Never use a mouth thermometer to take rectal temperature and never use rectal thermometer to take temperature by mouth .
- 2) If the patient is restless or difficult to hold in position on side , ask for help in taking temperature.
- 3) Be sure to wine thermometer clean off grease and fecal matter before cleaning and disinfecting , Clumps of these materials on thermometer contain disease organisms and the disinfectant can not reach them inside the particles of greasy fecal matter . As a result, the so called "Cleansed" Thermometer is still soiled.
- 4) Temperature by rectum is about 0.6°C higher than by mouth .

Taking Temperature by Axilla :

It is the measurement of body heat by placing thermometer under the arm .

Purpose :

To measure body temperature when it is difficult or not possible to use the mouth or rectal methods .

Equipment :

Same as for taking temperature by mouth .

Procedure :

1) Preparation of equipment :

Same as for oral temperature .

2) Taking the temperature :

a. Carry thermometer tray to patient's bedside .

b. Identify patient .

c. Explain to the patient what you will do .

d. Dry the armpit .

e. Place bulb of thermometer in center of the armpit , on the skin directly , with the stem end slanting downward .

f. Bring the arm across the chest . Have patient press arm snugly against chest to keep thermometer in place . " If patient is restless or irrational , hold his arm against chest ". Do not bear weight on chest .

g. Leave the thermometer in place for at least ten minutes .

h. Remove thermometer , read and record the temperature as Axillary temperature (Ax.) which is usually 0.6°C lower than the oral .

i. Clean thermometer in the same manner as when taking temperature by mouth .

Pulse :

Is the rhythmic expansion of an artery produced by increased volume of blood forced into it by contraction of the left ventricle at each heart beat .

This swelling of the artery can be felt with the fingers and is called pulse . The pulse may be felt at several points where a large artery lies near the surface of the body . The pulse is usually counted at the wrist just below the thumb .

بِلْجَةٌ

Sites for taking the pulse are at the :

- 1) Radial artery .
- 2) Temporal artery .
- 3) Carotid artery .
- 4) Facial artery .
- 5) Femoral artery .
- 6) Posterior tibial artery .
- 7) Dorsalis pedis artery .
- 8) Brachial artery .

Purpose :

- To determine :
- 1) Pulse rate : the number of beats per minute . The normal rate is between 60-100 beats / min .
 - 2) Rhythm : the time between one beat and the other .
 - 3) Volume : the pulse can be obliterated with relative ease by exerting pressure on the artery , but it remains perceptible with moderate pressure .
 - 4) Tension : the force against the arterial wall .

Factors Affecting Pulse Rate :

- 1) Sleeping :

On awakening in the morning the pulse rate of the average healthy male is approximately 60-65 beats/min.

- 2) Sex :

The rate of women is slightly faster about 7-8 beats/min over that for men .

3) Age .

Pulse rates vary with age gradually diminishing from birth to adulthood and then tending to increase somewhat in old age .

4) Body build :

The body size and build may affect pulse rates.

5) Disease :

A slow pulse rate is less common during illness than a rapid pulse rate , but when either is present the nurse must report promptly .

Also other factors which may affect pulse rate e.g. emotions , activity , Medication , Ingestion of food and hormones etc.

Rhythm of the pulse :

Normally the pulse rhythm is regular ; that is the time interval between heart beats is equal .

The volume or Quality of the pulse :

The degree of fullness of the artery and reflects the strength of the left ventricular contraction.

When this is not particularly easy to do the pulse is called bounding .

If the volume of blood is small and it is very easy to stop the feel of the puls , it is called feeble , weak or thready .

Procedure :

1) Identify patient .

2) Explain to patient what you will do .

" Do not count pulse immediately after the patient has been emotionally upset or after exercise , unless this is for a purpose " .

3) See that the patients arm is resting in a comfortable relaxed position over the lower chest unless contraindicated .

" Do not hold patients wrist upon in a flexed position while counting pulse " .

- Arterial pulse at wrist*
- 4) Place the tip of three fingers on the radial artery on the inside of the wrist just below the thumb and locate the pulse between the tendons and wrist bone.
"The tips of the fingers are used where the sensitive nerve endings are".
 - 5) "Avoid grasping patient's wrist in palm of your hand and clamping your fingers tightly around it. Too much pressure can easily raise pulse".
 - 6) Press fingers against the bone firmly enough to feel the pulse easily.
"Never use your thumb as it has a pulse of its own which is easily confused with that of the patient".
 - 7) When the pulse can be felt plainly, look at the second hand on the watch and count the beats for one half minute and multiply the number by two. This will be the rate per one minute.
"Recount the pulse if you are not sure that you have counted it correctly".
 - 8) Note whether the beat is strong or feeble, regular or irregular. If beat is irregular, count for a full minute. It is necessary to obtain count per minute. Report at once slow pulse of under 50 beats per minute. Also, report a rate over 100 if this is the first time pulse rate has been this high.
 - 9) Record the pulse rate on patient's graphic sheet of the pulse. Record on the nurse's notes the rate, rhythm, volume, tension, and any other significant characteristic.
- Apical pulse*

Apical - Pulse rate :

There are times when it is difficult to count the pulse rate at the wrist and when using other places on the body may be no more helpful. In such instances the

nurse may wish to place a stethoscope slightly below the level of the nipple on the chest to the left of the breast bone and over the tip , or apex of the heart .

Apical - Radial Pulse : A / R

- 1) The apical and the radial pulse rates are taken at the same time .
- 2) This requires two persons .
- 3) One of whom listens over the tip of the heart .
- 4) The other feels the pulse at the patient's wrist .
- 5) They use one watch placed conveniently between them .
- 6) They must decide on specific time to start counting , and count for a full minute .

If a difference is noted in the two pulse rates the findings should be reported promptly .

The difference between the apical-radial pulse is called the pulse deficit .

Respiration :

Is one breath taken in and one breathed out . This causes the chest and sometimes the abdomen to rise and fall .

The respiration center , which is in the medulla oblongata and in the pons is very sensitive to the amount of carbon dioxide in the blood and controls respirations without our having to think about breathing . Nevertheless we can also voluntarily control breathing to a certain extent .

Purpose :

To determine rate , depth and character of respiration .

Respiratory Rate :

Normally healthy adults breathe approximately 12 to 24 times a minute .

It has been noted that the relationship between the pulse rate and the respiratory rate is fairly consistent, in normal persons the ratio is 1 respiratory rate to 4 or 5 heart beats.

Respiratory Depth:

The depth of respiration is referred to as shallow or deep, depending on whether the volume of air taken is below or above normal for that person.

Normal Respiration:

Ordinarily, breathing is automatic and respirations are noiseless, regular, even and without effort.

Between each respiration, there is a short resting period.

Procedure:

- 1) Respiration must be counted without the patient knowing it. (Breathing is easily controlled by the individual, and it is difficult for the patient to breathe naturally if he knows respiration is being counted).
- 2) Leave your hand on the wrist after you finish counting the pulse.
- 3) Watch the respiration and count them by looking at the ~~chest~~ or abdomen as it rises and falls.
- 4) Count respirations for one half minute by the second hand on the watch. Multiply the number by two. This will be the respiratory rate per minute.
 "Report at once a change in breathing such as breathing which seems labored, painful, or unusually noisy. Report also a change in rate of less than 14 or more than 24 per minute".
- 5) Record rate for one minute on patient's sheets and nurse's notes.
 (Rate, depth and any abnormal characteristic of respirations).

INDIRECT AUSCULTATORY ARTERIAL BLOOD PRESSURE DETERMINATION

Definition :

The measurement of the force of the blood as it pushes against the walls of the arteries by a brachial cuff communicating with a mercury manometer via a rubber tube.

Purpose :

- 1) To aid in diagnosis and prognosis .
- 2) To ascertain the condition of the circulatory mechanism such as the workings of the valves of the blood vessels, the muscular tones or elasticity of the heart .
- 3) To acquire information about the volume and quality and viscosity of the blood .

Equipment :

- 1) A sphygmomanometer.
- 2) A stethoscope .
- 3) Alcohol sponge in a container of alcohol .

There are three types of manometers in use :

- 1) Mercury manometer : Which is an instrument that measures pressure with the use of mercury .
- 2) Aneroid manometer : Which measures pressure without using a fluid .
- 3) Electronic blood pressure meters : Which translate blood pressure into (beeps) that can be heard , Making a stethoscope unnecessary .

Procedure :

(1) Preparation of equipment :

- a. Wash hands to prevent the possible spread of infection among patients.
- b. Select the proper size of cuff according to the diameter of the patient's arm .
- c. Check your equipment :
Inspect and test the sphygmomanometer for :
 1. If there is sufficient mercury to pump to the top of the manometer .

2. If mercury holds at a given point when the valve is closed .
3. If the valve screw operates smoothly, it should neither stick nor be too loose .
4. If there are leaks or tears in the cuff all that could be done by the right hand close the control valve and pump air into the cuff until column of mercury rises .
- d. Wipe the ear pieces of the stethoscope with alcohol sponge . This is done to prevent cross infection between medical personnel . The alcohol solvent action helps in removing the sebaceous secretion of the ears from the ear pieces .
- e. Take the equipment to the patient's room and place them on the bed-side table or overbed table.These areas are used since the mercury manometer should always be placed on a flat (even , level) surface so that it will be in a vertical position when reading the scale , This is because the mercury tube is graded vertically .

(2) Preparation of patient :

- a. Explain the procedure to the patient.If the patient is assured that the procedure is relatively simple, and not at all painful , he will be less apt to become nervous or to show concern of which reactions may cause the blood pressure to rise .
- b. Loosen or remove the sleeve of any garment if the patient is wearing . A tight sleeve may constrict the arm or make it impossible to apply properly .
- c. Have the patient in a comfortably lying or sitting position , with the arm abducted, slightly flexed, and supported with a smooth firm surface with the brachial artery at a level with the heart (fourth intercostal space at the sternum) with the palm upward .

The lying position is recommended as muscular effort or exercise generally raises the level of the arterial blood pressure. The arm is placed at heart level, because the work load of the heart is increased when blood must be pumped against the force of gravity. So if the artery is above the level of the heart, the systolic and diastolic pressures tend to be erroneously low, whereas the opposite is true when the artery is below heart level. The position of the forearm and palm, place the brachial artery so that a stethoscope can rest on it conveniently in the antecubital area.

(3) Measuring the blood Pressure :

1. Place yourself so that meniscus of mercury can be read at eye level, and no more than 3 feet away, preferably sitting on a chair. Sitting assures that the nurse will take plenty of time to measure carefully, and it also allows the nurse to easily read the manometer. If the level is above the meniscus, parallax will give an inaccurate reading.
(A distance of more than 3 feet will result in an inaccurate reading. Parallax is the apparent change of position of an object when seen from two different points. For instance, if the mercury level is higher than eye level, the reading would be higher than it actually is. One should be aware of any limitation in her visual acuity.) .
2. Place the cuff so that the inflatable bag is centered over the brachial artery so that the lower edge is 1-2 inches above antecubital fossa, and apply it evenly and snugly around the arm.
(If the cuff is not applied properly, it may bulge or slip; it will not compress the artery

adequately , and the pressure reading will be inaccurate . If the cuff is placed too low on the arm , it may rub against the stethoscope and produce noises that make it difficult to obtain an accurate reading . .

The inflatable bag is centered over the brachial artery in order to apply direct pressure on it to shut off the flow of blood when inflating the cuff. If it is not placed directly over the artery, the pressure within the cuff necessary to occlude the artery will be excessively high.

3. Palpate the radial pulse . Then inflate cuff until the radial pulse disappears . Note this point on the manometer . Then rapidly deflate the cuff completely. permit one or two minute to pass to let congested blood pass before next step.
4. Place the stethoscope earpieces in the ears so that they point forward . Ear canals run forward . By this , two factors of prime importance : Leaks and occlusion , due to the improper fit will be avoided so decresing measurement error due to instrument .
5. Use the finger tips to feel for the area of maximum pulsation in the antecubital space . Accurate blood pressure readings are possible when the stethoscope is directly over the artery . The area of maximum pulsation can be located midway between the epicondyle and the tendon .
6. Place the stethoscope on the brachial artery in the antecubital space where the pulse was noted . The stethoscope head should be applied firmly, but with as little pressure as possible , and with no space between the skin and the stethoscope .

Sound transmission can be distorted when source and receptor are misaligned . Heavy pressure will distort the artery and produce sounds heard below the diastolic pressure .

7. Pump the bulb of the manometer until the mercury rises to approximately 30 mm above the point where the radial pulse disappeared .
8. Using the valve on the bulb, release air slowly so that the mercury falls about 2-3 mm per second, (Note on the mercury the point at which the first sound) is heard, record this figure as the systolic pressure.
9. Continue to release the cuff pressure , listening closely for a change in the intensity and quality of the beats . Usually , they suddenly become dull and muffled , then cease .
10. The point of complete cessation of sound is considered the best index of diastolic pressure .
11. Open valve completely , allowing the remaining air to escape quickly , This is done to relieve the patient of the discomfort of venous tension in his lower arm .
12. Remove the cuff from arm . Fold cuff and place in its container .
Assist the patient to comfortable position .
13. Wipe the stethoscope earpieces with alcohol sponge to prevent cross infection between medical personnel if used next times wiping them . The alcohol solvent action helps in removing the sebaceous secretion of the ears off the earpieces .
14. Record date , time , reading , and whether the left or right upper arm is used , blood pressure differs from an extremity to another . On the initial

examination it is usually best to record the pressure in both arms , using abbreviations , i.e. , R. A. , 140/82 ; L. A. 152/86 . In subsequent examinations the arm found to have the higher pressure initially should be used .

15. Take equipment to utility room or storage .

16. Wash hands .

Points to Remember :

1. Concentrate on the sounds you're hearing. Ask yourself if you're hearing a true cardio-vascular sound , or a simple noise .
2. Concentrate on the immediate reading only . A nurse's reading is often influenced .
 - a. A tendency to read to the nearest 10 mm . Mark on the manometer .
 - b. Her previous reading on the patient .
 - c. Her preference for a level she believes to be average or normal (for example , a reading of 120/80 or 90/60 for the normally hypotensive postoperative patient) .
 - d. Her preference for a certain terminal digit .
3. While the blood pressure is being recorded , there should be no hesitation and the measurement should be made smoothly .

You should not display concern or surprise by facial experssions or other mannerisms . Many patients observe the physician or the nurse carefully while he is recording the blood pressure in an effort to get an insight into the level of the blood pressure recorded , The patient might interpret as indicating that something is wrong , or that his blood pressure is abnormal , a reaction may produce a rise in arterial blood pressure in a few seconds .

4. Any time you have difficulty getting a satisfactory reading .Don't hesitate to ask the head Nurse or the Physician for help . They may be able to assist by listening with you through a stethoscope with two sets of earpieces .

1. The blood pressure is usually lowest early in the morning before breakfast and before activity starts.
2. The cuff should be of a size appropriate for the patient otherwise , blood pressure may be inaccurately measured . A common width is that the cuff should be 20% wider than the arm or leg.For the average adult, a width of 12 to 14 cm (approximately 4.5 to 5.5 inches) is usually satisfactory for the arm.
3. Blood pressure may also be obtained in the thigh by using a larger cuff .
 - a. The patient lies on his abdomen .
 - b. The cuff is applied with the compression bag over the back side of the middle of thigh .
 - c. The stethoscope is placed over the artery in back of the knee called the popliteal space .
 - d. The systolic pressure usually is a little higher when measured in the thigh than when measured in the arm , but diastolic pressure is about the same.
4. After the characteristic sound for diastolic pressure is heard all sounds may disappear immediately or some sound may continue even down to a zero reading. Some health agencies require the point at which all sound disappears should also be noted and recorded as follows: 120/80/76 . The number 76 indicates the point at which all sound disappear , If sound should be heard down to zero , this would be recorded 120/80/0 .

Recording the vital signs :

The manner in which vital signs are recorded depends on the health agency's policies .

Form attached is an example of a form used to record vital signs in Medical City Hospital and most Iraqi hospitals .

There are two types of charting :

- 1) 4 Hourly chart .
- 2) 12 Hourly chart .

SAUDI ARABIA MEDICAL HOSPITAL
Dammam 320

Patient No. Al-Awain

Record Number 65784

Doctor/Unit

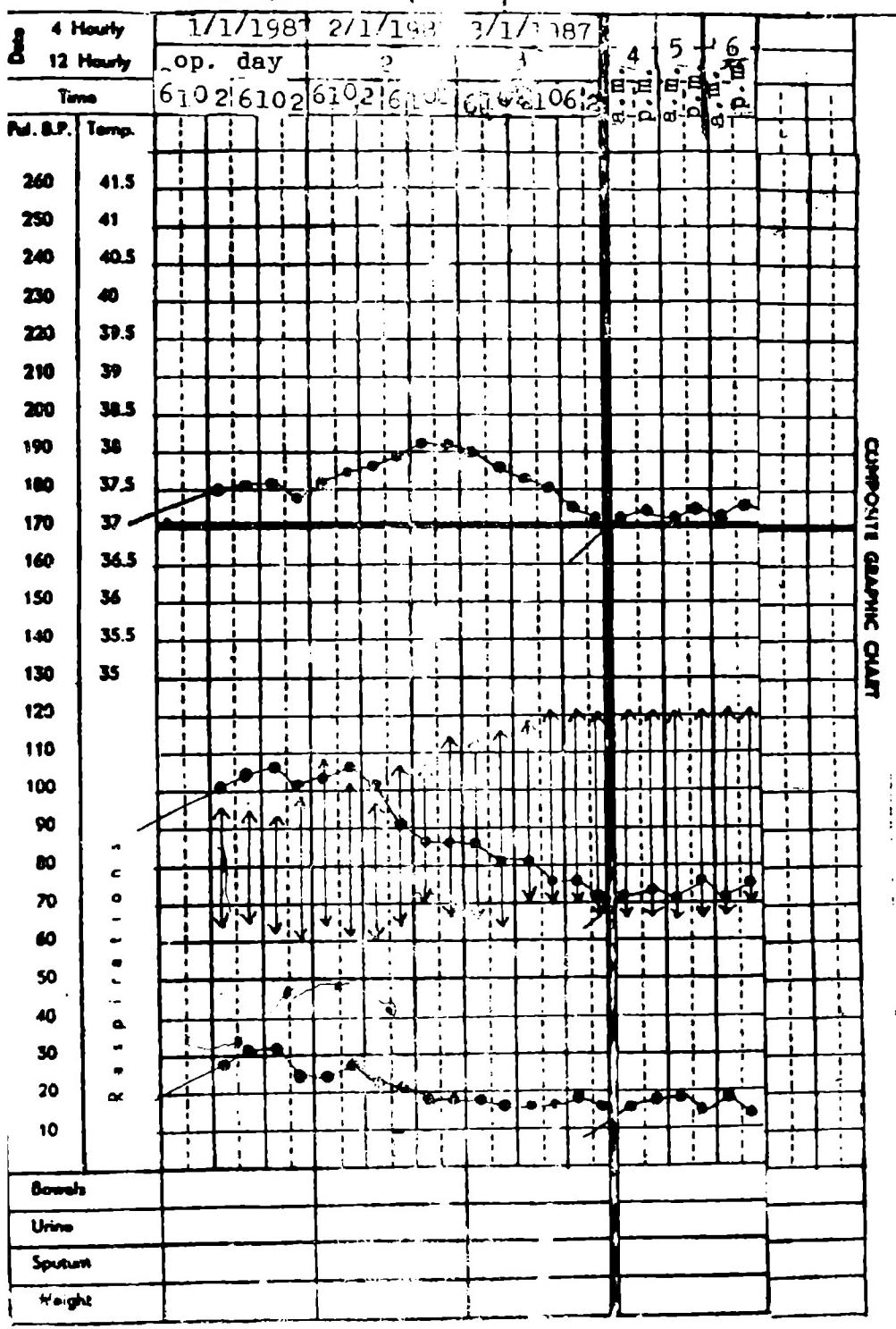
Dr. Younsif Al-Nu'man

Age 32 years old

Date of Admission

1/1/1987

Sex Male



SURGICAL ASEPSIS (Sterile Technique)

Terminologies :

- 1) Asepsis : Means the absence of organisms causing diseases .
- 2) Surgical asepsis : Practices that render and keep objects and areas free of all microorganisms .
- 3) Sterilization : A process by which all microorganisms including spores , are destroyed .
- 4) To contaminate : To make something unsterile or unclean .
- 5) Disinfectant : A substance used to destroy pathogens but not their spores .

In general , not intended for use on persons e.g. it is used for instruments only .

(Guide lines practices of surgical asepsis)

- 1) Dont walk away from or turn from a sterile feild, this will prevent contamination while the field is out of the workers view .
- 2) Avoid talking , sneezing or coughing over sterile field or object .
(this will help prevent contamination by droplets from the nose and mouth) .
- 3) Hold sterile objects above the level of the waist this help keeping the object in sight, thus avoiding accidental contamination .
- 4) Open sterile package so that the edges of the wrapper are directed away from the worker , in order to avoid the possibility of sterile surface touching the uniform and to avoid reaching over sterile field .
- 5) Avoid spilling solutions on a cloth or paper of sterile set up . The moisture will penetrate through the sterile field , carrying organisms with it , and contaminate the field . A wet field is always considered

contaminated when the surface immediately below it is not sterile .

- 6) Don't reach over a sterile field , clothes are not sterile and could contaminate the field by touching it or by dropping particles of lints or dust on it.
- 7) Do not use equipment or supplies if there is any doubt about there being sterile .
- 8) Hands can not be sterilized , therefore , handle sterile equipment and supplies with sterile forceps or with the hand after putting on sterile gloves .
- 9) Avoid drafts from open windows , fans air conditioning units , and so on near sterile field . The air currents may carry organisms to the sterile field and to the patient .
- 10) Masks and gowns are used in delivery room and operating rooms as a part of surgical aseptic technique in the units .

Handling sterile transfer forceps, and sterile containers.

Transfer forceps (cheatel forceps) are instruments used to handle supplies and equipment, sterile forceps are used to handle :

- 1) Sterile equipment and supplies so that they are not contaminated by hands .
- 2) Unsterile or clean forceps are sometimes used to handle contaminated equipment and supplies in order that the hands do not become heavily contaminated .

Using sterile forceps :

Using sterile forceps that are stored in a container of disinfectant and managing sterile containers :

The purpose is to manage sterile transfer forceps and sterile cover containers and their contents remain uncontaminated .

Practice :

- 1) Keep only one sterile forceps in the container of sterile solution to prevent accidentally touching the sterile parts of one forceps on the handle of the other while removing it from the container .
- 2) When removing forceps from the container, keep the edges together and lift the forceps without touching any part of the container .
- 3) Hold the forceps with the edges pointed downward to prevent solution from the container on the edges from flowing from the unsterile handle to the sterile parts.
- 4) Gently tip the edges together directly over the container to remove excess solution, do not tip the edges on the edge of the container .
- 5) Resterilize the forceps and its container and fill it with fresh disinfectant at least daily .
- 6) Remove the cover of a sterile container only as necessary and for as brief a time as possible .
- 7) Resterilize the forceps and its container at regular intervals according to hospital routine , or at least every 24 hours .

Methods of disinfection and sterilization :

There are several basic guides to help the nurse select a proper sterilization or disinfection method .

- 1) Be sure exactly which microorganisms are present . Some organisms are easier to destroy than other spores and the microorganisms causing T.B. are especially difficult to destroy , while the microorganism causing the common cold is easy to destroy .
- 2) Clean items properly before disinfecting or sterilizing them because when organisms are protected under

layers of grease or oil or are in blood and pus, disinfecting and sterilizing items becomes more difficult and therefore less safe .

- 3) There are some items used for certain procedures must be sterilized such as catheter, needles , it must be cleaned thoroughly first and then completely coverd with solution or exposed to steam or gas when disinfected or sterilized .

Types of disinfection or sterilization :

- 1) Chemical sterilization :

Use chemical solution , there are variety of chemical solution for disinfection and sterilization. Hospitals also differ in their choices it is recommended that you examine those used in the hospital.

- 2) Physical methods of sterilization and disinfection

1. Heat use :

- a. Steam sterilizer use moist heat :

1- Autoclave .

2- Pressure cooker .

- b. Dry heat or hot air sterilization e.g. :

1- Oven .

2- Iron .

3- Flame .

Cleaning supplies and equipment :

- 1) Wear gloves if items are heavily contaminated or if you have any break in your skin .
- 2) Rinse items first under cool , running water ; hot water causes many substances to coagulate , that is to thicken making them difficult to remove .
- 3) Use hot water and soap or detergent for cleaning purposes . Hot water and soap break up dirt into things that can be more easily rinsed off with water .

- 4) A sponge or cloth may be used for many purposes, they create friction that helps to loosen dirt and organisms.
- 5) Use brush as necessary to loosen dirt . A brush is necessary to get into small grooves and joints instruments.
- 6) Force sudsy water through reusable needles to loosen dirt . Alcohol or ether may be used also and will help to break up oily substances .
- 7) Disassemble (separate) and rinse reusable needles and syringes immediately after use, this prevents part from becoming locked together .
- 8) Rinse items well under running water after cleaning with soap , or detergent water , this will loosen dirt and organisms .
- 9) Avoid splashing or spilling water on yourself or on the floor or other equipment during procedure .
- 10) Dry equipment well to prevent rusting .
- 11) Consider your hands heavily contaminated after cleaning equipment even when you wear gloves and wash them properly .
- 12) Handle gloves brushes , sponges , cleaning clothes, and water as contaminated and clean or discard them accordingly to prevent the spread of microorganisms.

SURGICAL SCRUB

The surgical scrub renders the hands and arms as free of contaminants as is possible with mechanical and chemical means.

The effectiveness of scrubbing is dependent upon mechanical action which helps remove organisms from the ducts of the sebaceous glands in which they grow.

As yet no means of rendering the skin sterile is available. The effectiveness of scrubbing used should be chosen to fit the surgical procedure planned. An agent that acts slowly but over a long period of time is preferred when long procedures are planned. A rapid-acting agent is preferred for shorter procedures.

The scrub system used varies with Institutional policy and individual preferences. Some prefer a scrub timed by the clock; others use a counted-stroke method. The time of the scrub or number of strokes used varies also. This is affected by the cleansing agent used, the length of time between scrubs, the amount of contamination present, and use of preliminary wash or scrub or both. Difference of opinion exist concerning whether the scrub should extend to or above the elbow, whether a chemical rinse should follow the scrub, and what solution or solutions should be used for terminal rinsing. New systems of scrubbing are being investigated. If the system used is uniform microbial studies can be obtained and used to determine when changes are indicated.

Preparation for Scrubbing

The nurse begins the surgical scrub after she or he is dressed appropriately for the operating room. This means that the nurse is wearing:

- 1) a clean surgical dress.
- 2) conductive foot ware.
- 3) a cap that covers her hair completely; and
- 4) a mask that covers her mouth and nose

If during the scrub

technique , any part of the hands or forearms touches the sink , faucet , or an unsterile object or surface, the nurse must begin the scrub again For all the described scrubs , the nurse holds her hands and arms upward so that these parts are above the level of the elbow with the hands and arms held upward , water used in scrubbing will drip from the elbow . Washing , scrubbing , and rinsing activities proceed from the finger tips toward the elbow . Prior to beginning to scrub , the temperature and rate of flow of the water are adjusted to comfort of the practitioner, water is left running throughout the scrub . Several methods of scrubbing are described . Variation from these will occur , depending upon where the nurse is employed .

Methods of Scrubbing

Routine Scrub (Long Scrub)

Using the time method ,

- 1) The nurse wets the hands and arms thoroughly and applies the cleansing agent .
- 2) To remove surface contamination , wash from the finger tips to the elbow , taking about one minute .
- 3) Then rinse the hands and arms ; again proceeding from the fingertips to the elbow and apply more cleansing agent .
- 4) A sterile brush or sponge adds gentle friction, scrubbing proceed in short or circular strokes until the entire area is covered , about 4 minutes .
- 5) The nurse adds water as needed to increase the lather. If soap is used , add additional soap for the same purpose .
- 6) Discard the brush and clean the nails with a sterile file or orange wood stick , then this is discarded.
- 7) Rinse the hands and arms thoroughly .
- 8) Apply more cleansing agent and use another sterile brush to scrub all surfaces of the hands and forearms for four more minutes .

- 9) Rinse again and use a sterile towel to blot the hands and arms until they are dry .

The Counted Stroke Method

This differs from the timed method in that the hands and arms are scrubbed with a specified number of strokes. The nurse begins the scrub with initial washing and rinsing. A suggestion for the first scrubbing is as follows :

- 1) 20 strokes to the nails .
- 2) 10 strokes to the surfaces of the fingers and nails .
- 3) 10 strokes to all surfaces of the arms . The nurse does a second scrubbing with another sterile brush after rinsing and cleaning the nails . Apply counted strokes during the second scrub as follows :
- 1) 10 strokes to the nails .
- 2) 10 strokes to the surfaces of the fingers and hands . and
- 3) 3 strokes to each surface of the arms .

Short Surgical Scrub

The nurse uses the short surgical scrub between cases when contamination has not occurred , and must keep the gown and gloves on until this scrub is begun .

Following the timed method, after the nurse removes the gown and gloves, 1) The nurse wets her or his hands and forearms thoroughly

- 2) Applies the cleansing agent .
- 3) And scrubs the areas with a sterile brush for 3 minutes .
- 4) Discard the brush .
- 5) Rinse the hands and arms thoroughly , and,
- 6) Dry them with a sterile towel .

Using the counted stroke method, after wetting the hands and arms , the nurse ,

- 1) Applies the cleansing agent .
- 2) Cleans the nails and use a sterile brush to stroke the nails 20 times .

- 3) The surfaces of the fingers including the nails 10 times, and ,
- 4) The surfaces of the arms 6 times .
- 5) After rinsing dry the hands and arms with sterile towel .

The primary difference between the long counted stroke method and short counted stroke method is that for the latter the scrub is considered complete after the initial scrubbing.

Drying hands and arms with a sterile Towel :

The nurse uses a sterile towel to dry her hands and forearms following the surgical scrub .

- 1) Grasp the towel by one corner and raise it up to unfold it . The towel must not come in contact with anything that is unsterile . This means that the nurse will step into a space away from any objects and will hold her towel well away from her body while drying her hands and arms .
- 2) Hold the towel in one hand and use it to blot the surfaces of the fingers , hands, and arms until they are dry .
- 3) Then moves the dry hand to the opposite end of the towel to hold it while drying the other hand . During this process , manipulate the towel in order to ensure a dry surface . After drying the hands and arms, the nurse is ready to put a sterile gown on .

Putting on a sterile gown :

The method for putting on a sterile gown differs from the method illustrated for putting on an isolation gown. The sterile gown is folded in a manner that permits the hands to touch only the inside of the gown .

- 1) The nurse grasps the gown from the inside ,
- 2) Holds it up and away from unsterile areas to be unfolded,
- 3) slips her hands into the sleeves . The circulating nurse may touch the inside of the outer edges of the back of the gown to adjust it and also to tie it .

Methods of Gloving

Two methods of gloving may be used. The open method is also used when gloving is required for a technique not requiring the use of a gown, as catheterization.

Open Method :

After package is opened .

- 1) The nurse grasps the glove for the right hand by the turned-down cuff with the left hand , and slips the right hand into the glove .
- 2) Place the right hand , now gloved , beneath the cuff of the left glove , so that she or he may place the left hand in the glove .
- 3) Place the right hand beneath the cuff of the left glove to pull it over the cuff of the gown .
- 4) After pulling the cuff of the right glove similarly over the cuff of the gown, adjust the fingers of the gloves .

It is important to observe the position of the thumbs when pulling the gloves over the arms if contamination is to be avoided .

Closed Method :

- 1) The nurse does not slip her hands completely through the sleeves of the gown they remain covered by the sterile gown .
- 2) Grasp the inside seam of the end of the sleeve and use it to pick up the left sleeve .
- 3) Place the left glove , palm down , on the left forearm of the gown .
- 4) Pull the glove , still held by the inside seam of the gown , on over the left hand .

Reference: Dison , Norma Groenler , An Atlas of Nursing Techniques , 2nd. Edition , The C.V. Mosby Company , Saint Louis , 1971 page 26 -33 .

DRESSING A WOUND

Definition :

The process of applying a protective sterile covering of gauze or other material to a wound and giving necessary care by using aseptic technique.

Purposes :

1. To help keep organisms out of wound.
2. To help absorb drainage or discharge from a wound.
3. To apply pressure, to control bleeding if present.
4. To help restrict movement that tends to interfere with healing.
5. To assist the healing process by keeping edges of wounds in close approximation.
6. To serve to cover an area of disfigurement.
7. To provide for local application of drugs.
8. To protect the wound from injury.

Equipment :

- I. Sterile equipment.
- II. Non sterile equipment.

Sterile equipment :

1. Sterile rubber gloves or disposable gloves.
2. Sterile small bowel with small pieces of gauze (swabs) used for cleaning the wound and the area around it.
3. Package of sterile gauze folded into various sizes and shapes selected according to patient's needs.
4. Ointment gauze (sofra tulle).

محتويات العلاج

5. Bottles of disinfected solution used for cleaning the wound and the area around it.
Solution should be diluted before using it as follow as:
 - a. Hibitane
 - b. Cetavlon
 - c. Sterile normal saline
 - d. Iodine used for cleaning around wound and is used also for cleaning the area before surgery.
 - e. Alcohol
 - f. Hydrogen peroxide
 - g. Mercurochrome
 - h. Acriflavin
 - i. Gentian violet
6. Package of small sheets used to cover the area around wound to protect the wound out of contamination if necessary.
7. Sterile instrument set for removing stitches which consist of :-
 - a. Sharp pointed scissor
 - b. One teeth forceps
 - c. One forceps without teeth
 - d. One artery forceps 5 inches
8. Sterile handling forceps in a sterile container with disinfectant solution such as hibitane 2% Diluted with normal saline and alcohol solution used for sterilizing instrument should be diluted as follow :-

1. 100cc of Hibitane + 150cc Distill water + 750cc alcohol concentration 95% and add anti-rust tablet such as sodium nitrate to prevent the instrument from rust and it should be changed every week.

9. Package of sterile cotton.

Sterile equipment :

1. Adhesive tape 2 rolls different sizes.
2. Bandage scissor.
3. Gauze rolls Bandages 10 rolls different sizes.
4. Plastic bag or paper bag for soiled dressing.
5. Trolley or small tray.
6. Non sterile gloves
7. Kidney basin

Procedure :

1. Explain to patient.
2. Assemble equipment.
3. Carry all the necessary equipment or dressing trolley or (tray) to the bed side.
4. Keep the bed side table free from other things.
5. Close the door and windows to prevent drafts.
6. Provide for privacy.
7. Wear cap and mask.
8. Wash your hand before and after dressing change with soap and water or with disinfectant solution such as hibiscrub.
9. Open all the packages and prepare all equipment needed for dressing.
10. Pour the antiseptic solution into the small bowel which is used for cleaning the wound and the area around it. Clean the tips of solution bottle by pouring a small amount before pouring it into the container.

11. To prevent the contamination of your hands and the wound you may put on non sterile gloves if available or use clean forceps to take off the soiled dressing.
12. Change the non sterile gloves with sterile gloves or use sterile forceps.
13. Clean the wound and skin around it carefully with the antiseptic solution. Cleaning helps remove organisms tissue debris , and drainage, thereby promoting healing.
14. When cleaning, move sterile gauze over the wound and then away from it, using one piece of gauze for each time. Moving away from the wound and using one piece of square gauze for each time to prevent bringing organisms from the skin to the wound.
15. When the wound is heavily contaminated moving from the cleaner area, that is the skin, toward the wound helps prevent the spread of organisms from a less contaminated to a more contaminated area.
16. Dry the area with sterile material (gauze) as necessary, protective materials cannot be applied well to wet skin.
17. Cover the wound with sterile dressing handle with sterile gloves or with sterile forceps.
18. Use fluffed and loosely packed dressings to absorb drainage and carry it up and away from the wound and skin.
(loosely packed dressings promote air circulation thus helping to prevent skin irritation by increasing evaporation of moisture dissipating heat).

- by adarsh*
19. Change the dressing often enough so that it does not become soaked with drainage, (keeping the skin clean and dry prevents irritation to skin tissues).
 20. The patient should be left in clean comfortable environment return all equipment to the utility room.
 21. Wash, clean, Dry, pack and sterilize all the instrument and equipment that has been used. (careless handling of equipment spread organism to others).
 22. Record date, time of dressing and condition of the wound e.g. progress of healing, discharge, pus-blood etc.
 23. Discard soiled dressing as well as a material for cleaning the wound in a plastic bag.

*Note*Securing the Dressing :

- Consider the following factors :-*
1. Size of the wound.
 2. Location of the wound.
 3. Presence of the drainage.
 4. Nature of the drainage.
 5. Frequency with which the dressing needs changing.
 6. Activities of the patient.
 7. Skin condition and nature.

There are basic techniques for securing most dressings.

1. Use adhesive tape for securing dressings.
 2. Apply a protective coating on the skin before using tape when dressing must be changed frequently. This helps protect the skin from irritation.
- A preparation used is tincture of benzoin or collodion.*

3. Observe the patient for sensitivity to adhesive tape, investigate any complaint or discomfort associated with adhesive, symptoms include redness swelling and blister formation.
4. Shave the area of adhesive if applied over hairy areas.
5. Pass the adhesive tape over a flame or moisten it with a little alcohol if the adhesive does not stick well on the skin.
6. Remove adhesive carefully and slowly between dressing. The adhesive should be heated a bit at one edge and then pulled toward the wound almost parallel to the skin. Removing it in this manner helps avoid pulling the wound edges apart. The remaining of adhesive may be removed with acetone or ether.
7. Use strips for securing a dressing when it must be changed frequently. They do not require changing with each dressing.
8. Exert pressure on the wound from the edges toward the center of the wound when securing a dressing - this practice helps to approximate the wound edges and promote healing.
9. Secure the dressing so that it is fixed enough to prevent the dressing from slipping about, but not too tight so that circulation is obliterated.
10. Loose - fitting dressing causes friction as patient moves which produce irritation on the wound and skin.

Points to Remember :

1. Before starting procedure keep in your mind for changing dressing it is necessary to maintain strict surgical aseptic technique to prevent contamination or secondary infection to a wound.
2. Dressing may be changed in a treatment room or in an operating room some times or while the patient is in bed.
3. The hospital have trolley which are wheeled from one patient to another.
However to help prevent cross infection the preferred method is to have individual dressing tray which contain the equipment and supplies necessary for each patient.
4. Provide privacy of patient pull curtain or put a screen.
5. Help patient to assume a comfortable position.
6. The position should also be easy for the nurse to observe the practices of surgical asepsis and to have a convenient work area.
7. Sufficient lighting should be provided so that the area is clearly visible.
8. If the procedure is likely to produce medication to relieve pain may be given before beginning the procedure.
9. Be sure all the equipment needed for dressing are ready.

Bandage or Binder

Definition:

Applying a bandage or binder over the dressing.

Purposes:

1. To hold a dressing in place
2. Applying pressure to an area or part.
3. To limit motion of injured tissue or part and provide support.

Points to keep in Mind:

1. Clean and dry part before application of bandage or binder.
2. Select the type, size and width of the bandage or binder according to the purpose and needs of the patient.
3. Provide protection between the skin surfaces before application.
4. Place patient in a comfortable position, place part in a normal functioning position.
5. Provide support for extremity, secure assistance if needed to support extremity.
6. Use only clean and dry bandage and binder.
7. Avoid pressure directly over the wound, unless specifically ordered or indicated.
8. To keep clean, dry and free from drainage and odor.
9. Secure by using suitable method according to purpose, material and part, avoid placement of means used directly over the injured area, over joint, or bony prominence or where it will rub or press against another part.

Kinds of Applying Roller Bandage:

1. Circular turn

Use to hold a dressing over small area

- a. Place the cutter surface of the initial end of the bandage next to the skin (or dressing) hold roll upper most
- b. Hold end in place with one hand while the other hand passes the roll around the part.
- c. Repeat turn 2-3 times exactly overlap the preceding turn.
- d. Use equal tension with each turn.

2. Spiral Turn

- a. Overlap each preceding turn by $1/2 - 2/3$ width of the bandage.
- b. Ascend (or descend) overlaps to bandage a part of fairly equal contour .

3. Spiral-Reverse Turn

- a. Use spiral turn making a reverse half way through each turn. It is used for forearm, thigh or leg.

4. Figure of Eight Turn

- a. Make oblique overlaps

To ascend alternately cover each preceding turn $2/3$ or $3/4$ the width of the bandage.

This bandage is used around joints such as elbow, knee.

- b. Spica Turn

Use figure of eight ascending and descending turns overlaps all turns to form an angle when crossing the bandage, used on a part such a thumb, shoulder and the groin.

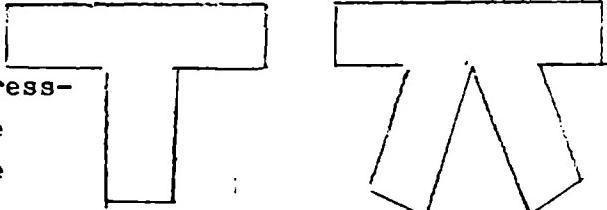
5. Recurrent Turn

- a. Make turn over the center of the tip or the rounded end or part, and return to starting point.
- b. Use circular turn to keep ends of turn in position and secure bandage when finished.

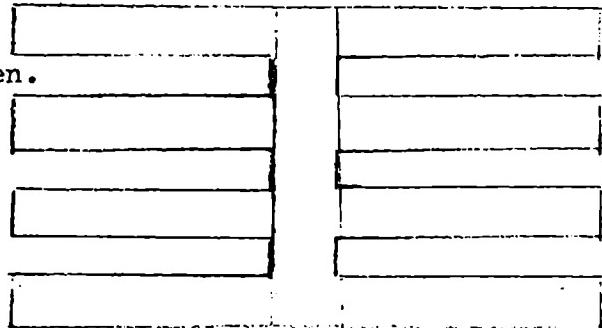
Use on part such as a finger, head, leg or arm stump.

Binders**1. T. Binder**

Use to hold dressing or to give support to the perineum area.

**2. Tailed Binder**

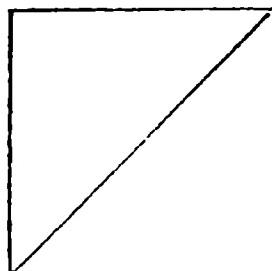
Used for abdomen.

**3. Straight Binder**

Used for abdomen

**4. Breast Binder**

5. Triangular Bandage
Used to hold the arm.



Oral Administration of Medicine

Point to Remember : Oral administration of medicine

1. Always have a written order for medicine signed by the doctor.
2. Do not give a medicine when you have any doubt concerning the patient, drug or dose. Ask the charge nurse or doctor before giving.
3. Know standard abbreviations and symbols pertaining to dosages.
4. Know minimum and maximum doses and the action of every drug you give.
5. Wash hands thoroughly and see that all equipment are clean before preparing medicines.
6. Have a good light when preparing medicines.
7. Do not use medicine from unmarked or poorly labeled bottle or container.
8. Keep your mind on what you are doing. Do not talk or listen to anyone while preparing medicines.
9. Read the label three times :
Before removing medicine from cabinet
Before pouring or preparing it
Before returning it to cabinet
10. Compare label on drug each time with the medicine card or doctor's order .
11. Do not return excess medicine (or medicine not taken by patient) to the stock bottle or container; discard it in the sink.
12. Do not pour a drug from one bottle to another although it has the same label.
13. Do not leave the medicine cabinet unlocked.

14. Prepare the medicine you give, and give the medicine you prepare.
15. Record and report the name and amount of medication and time it was given.
16. Give the right dose of the right medicine to the right patient at the right time and in the right way, know the right side effect.

Equipment :

1. Medicine tray.
2. Medicine cards-with name of patient, room or bed number, drug dose, hour.
3. Medicine glasses and small cups.
4. Medicine droppers.
5. Mini glass, and calibrated measuring devices, as required.
6. Spoons, as required.
7. Tongue depressor.
8. Paper wipes (kleenex)
9. Small pitcher of cold water.
10. Drinking straws.

Procedure :

1. Wash your hands thoroughly
2. Unlock medicine cabinet
3. Make medicine cards
4. Take one medicine card at a time : Read first card; locate medicine in cabinet, Read label, remove from shelf.
5. Compare name of drug on label with name of drug on medicine card.
6. Pick up medicine glass. Read label on medicine, check against card again

7. Pour or prepare prescribed dosage of medicine in glass;
 - a. Shake bottle
 - b. Remove cap and place it upside down on shelf
 - c. Hold medicine glass in left hand so that mark of prescribed amount is on level with your eyes. Place your thumb nail at mark.
 - d. Hold bottle in right hand, with label next to palm. Pour the exact amount prescribed.
 - e. Wipe rim of bottle with paper wipe. Replace cap.
 - f. Dilute medicine with one-half ounce of water, unless it is a medicine that is given undiluted (follow the Dr.'s instructions).

Tablets, Pills, Capsules :

- a. If in bottle, gently shake the prescribed number into the bottle cover.
If in a box, remove prescribed number with a spoon.
- b. Place in a dry medicine glass or paper cup.

Powders :

- a. Know how the particular powder is to be measured.
- b. If measured in a calibrated medicine glass, gently shake powder into glass. Hold glass at eye level when measuring, using same method as for liquids.

- c. If powder is to be measured with spoon, take more than the required amount, draw edge of tongue depressor across spoon. Empty into medicine glass.
- d. Add required amount of water to powders in glass; stir with stirring rod.

Drops :

- a. Use a medicine dropper. Draw up about the amount you will need.
 - b. Holding dropper at a 45 degree angle, count the prescribed number of drops as they fall into medicine glass.
 - c. Discard excess medicine, if any in dropper, into sink.
8. When prescribed dosage is in medicine glass, read label on medicine, compare with medicine card. Return medicine to shelf.
9. Place card and medicine on tray in the manner required by system and routine.
10. Take each remaining card in turn and repeat steps 5 through 10, until all medicine and cards are on tray.
11. Lock medicine cabinet.
12. Place water pitcher, drinking straws, paper wipes on tray, and take to bedside of first patient.
13. At each patient's bedside :
 - a. Identify patient before giving medicine, Ask patient to speak his name. Compare name on medicine card with that on chart.

- b. Hand medicine glass, with medicine in it, to patient.
 - c. Pour drinking water and hand to patient.
 - d. Stay at bedside until patient takes medicine
 - e. Place used medicine glass to one side on tray. Turn medicine card face down on the tray to show that medicine has been given.
 - f. Immediately chart medicine given, before moving on the next patient.
14. Repeat all parts of step 13 until all medicines are given

After Care of Articles Used :

1. Wash medicine glasses in hot soapy water; rinse and place in cool water. Boil 10 minutes.
2. Wash pitcher and articles used in preparing medicines, and return to proper places of storage.

INJECTION

Definition :

Introduction of liquid into a body tissue, body cavity or tubular organ.

The Rots by which injections are given are as follows :-

1. Intradermal (I.D.): fluid is given into the skin layers.
2. Hypodermic, subcutaneous (S.C.): fluid is given into the fatty tissue under the skin.
3. Intramuscular (I.M.): fluid is given into the muscle.
4. Intravenous (I.V.): fluid is given directly to a vein,
5. Intrathecal : fluid is given into cerebro-spinal fluid (C.S.F.)

General purposes :

1. To prevent the drugs from being destroyed by the action of digestive juices in stomach.
2. When a more rapid and complete absorption is desired than if taken orally.
3. To administer the drug when it cannot be given orally as for the unconscious patient, the patient for whom gastric suction is being used and patient with nausea and vomiting.
4. Failure of the drug for a variety of reasons to attain a therapeutic plasma concentration when given by mouth.

5. Drugs which don't readily pass from the blood into the C.S.F. must be given by intrathecal injection.
6. Localization of medication at a specific site in the body e.g. kidney dialysis.

Diseadvantages :

1. An aseptic technique is needed to avoid infection.
2. Intramuscular injection may cause nerve and blood vessels damage.
3. I.V. injection
 - a. Air embolism
 - b. Perforation of wall of the vein
 - c. Quick injection of drugs
4. It is possible for the needle to break in the tissue.
5. This method costs more money and effort.

Parts of the syringe :

A syringe consists of a barrel made of glass or plastic with a nozzle to which the needle is attached. The barrel is graduated for accurate measurement. Syringe may hold from 1-100 ml. Within the barrel is the piston or plunger which can be drawn up or pushed.

A disposable needle has a cover which must be on the needle until it is introduced into the body tissue or aspirate the drug.

There are common sizes of syringes and needles used for various injection. These are as follows :

<u>Type of injection</u>	<u>size of syringe</u>	<u>size of needle</u>
Subcutaneous	1, 2½ or 3 ml. calibrated in- to 0.1 ml.	25 gauge, 1/2 - 5/8 inch. length
Intramusclar	5 ml. calibra- ted in 0.2 ml.	20 - 22 gauge 1½ inch length
Intradermal	1 ml. calibra- ted in tenths or hundredth of ml. and or in minimis	26 - 27 gauge 1/2 - 3/4 inch length
Intravenous	2-50ml	18 - 20 gauge 1½ - 2 inch length

After care of glass syringe :

1. Rinse syringe by cold water to prevent clotting by flushing and forcing through needle.
2. Wash syringe with soapy water.
3. Rinse with water
4. Check the needle.
5. Sterilize needle and syringe after packing.

Sterilization :

Plastic disposable syringe and needle; are supplied, sterilized and packed by the manufacturers. But when used check the expired date.

Glass and metal syringe are sterilized by one of these means : *steam* *oxygen*

oxygen

1. Packing in an electric oven at 160°C (320°F) for one hour.
2. By autoclave, temperature and time according to instructions.

ROTS OF INJECTION

Subcutaneous Injection

Definition :

Forcing of liquid into the fatty tissue under the skin.

Subcutaneous

Purposes :

1. When the patient must receive repeated subcutaneous injection for example for diabetic patient who is receiving insulin subcutaneously.
2. For diagnostic purposes as for sensitivity test.
3. For some medications which is not suitable in any other method.

Equipment :

1. Tray
2. Syringe size 1 - 3 cc or insulin syringe with needle gauge 25 length $1\frac{1}{2}$ inches.
3. Cotton ball in antiseptic solution in covered container or swab.
4. Ampule cutter (File).
5. Medication with medicine cart.
6. Paper bag as suitable.

The site of subcutaneous injection :

1. The outer surface of upper arm below the shoulder.
2. In the middle anterior portion of the thigh.
3. Abdomen. *جذع البطن*
4. Back.

Procedure :

1. Read doctor's order sheet carefully.
 2. Wash hands.
 3. Obtain equipment and drug.
 4. Check the syringe.
 5. Pick up medicine.
 6. Place the drug into the syringe.
- Removing drugs from a multiple - dose vial.
- A: Remove the soft metal cover on the top of the vial.
 - B: Cleanse the exposed rubber cap with alcohol sponge.
 - C: Fill the syringe with air in the same amount of solution.
 - D: Inject the air and then remove the desired amount of solution.

Removing the drugs from glass ampules

- A: Tap the stem of the ampule several time with your fingernail.
- B: Use file to scratch the glass on opposite sides of the stem where it will be broken (if the ampule was with line on the neck there is no need for file)
- C: Cleanse the area on the ampule where it will be broken with alcohol sponge.

- D: Hold the ampule in one hand and protect the fingers on the other hand with a sterile, dry gauze pledge, break off the stem of the ampule.
- E: Insert the needle into the opened ampule being careful not to touch the edge of the glass. Remove the medication from the ampule by pulling back on the plunger of syringe.
- F: Expel air from syringe by:
 - a. Holding the syringe in vertical position at eye level.
 - b. Pull plunger downward, then push upward slowly to expell the air until one drop of medicine shows at tip of needle.
 - c. Cover the needle with it's cover.
8. Carry to patient's unit on tray.
9. Ask the patient his name.
10. Explain to patient simply.
11. Expose the site of injection.
12. Clean the area with alcohol sponge by friction.
13. Grasp the area surrounding the site of injection and hold in a cushion fashion.
14. Release the cover of the needle.
15. Inject the needle at $(30^{\circ} - 60^{\circ})$ angle depending on the turgor of the tissue.
16. Release hand from tissue and transfer it to syringe so that it is free to manipulate plunger.
17. Pull back gently on the plunger of syringe to determine whether the needle is in the blood vessel or not.
18. If blood appears, change the site of the needle

19. If no blood appears inject the solution slowly with observation of patient for unwanted reaction.
20. Place the cotton ball over the site off injection and withdraw the needle quickly.
21. Rub the area gently with the sponge.
22. Discard syringe and sponge.
23. Leave patient comfortable.

Intradermal Injection
I.D.

Definition :

Forcing of a small amount of fluid into the dermal layer of the skin.

Purposes :

1. For diagnostic purposes e.g. tuberculin test.
2. For preventive purposes e.g. B.C.G.
3. For treatment of some skin disorders, e.g. alopecia areata.

Equipment :

Same as for subcutaneous injection except size of syringe, use 2 cc needle 25 - 27 gauge $\frac{1}{2}$ - $\frac{3}{4}$ inches length.

The site of injection :

1. Inner aspect of forearm is usually used for diagnostic tests.
2. Sub scapular region of the back.
3. For skin treatment, site depends on doctor's order.

Procedure :

1. Preparation of equipment : same as for subcutaneous injection, except water is used instead of alcohol in certain test and vaccine.
2. 3. 4. 5. 6. 7. 8. 9. : same as for subcutaneous injection
10. Clean skin with alcohol or water sponge.
11. Support area of injection by stretching the skin.
12. Open the cover of the needle.
13. Insert needle carefully between skin layers at angle of 15 or less with bevel of needle pointing upward.
14. Make downward pressure on syringe to raise needle and separate skin.
15. Do not withdraw plunger to test for blood.
16. Inject drug slowly. Observe site to see that bleb is forming as medication is injected.
17. Do not place alcohol sponge over injection site. Remove needle. Dont massage.

Intramuscular Injection

I.M.

Definition :

Forcing of a medicine into muscle tissue.

Purposes :

1. When the drugs is too irritating for use subcutaneously
2. Larger quantities can be given I.M. than S.C.

3. When absorbed more rapidly into the blood stream than S.C.

Equipment :

Same as for subcutaneous injection except size of syringe. Use size 5 cc and needle 21 - 22 gauge, 1½ - 2 inches in length.

Site of injection :

1. The ventrogluteal site :
 - a. The injection is made into the gluteus minimus and the gluteus medius muscles.
 - b. To locate the ventrogluteal area, has the patient lie on his side or his back, then place hand on the patient's hip with index finger on the anterior superior iliac spine and stretching middle finger dorsally, palpate the crest of illium and press below the iliac crest.
2. The dorsogluteal site :
 - a. The site located by dividing the buttock into quadrants, the injection is given in the upper outer quadrant of buttocks 2-3 inches below the crest of the illium.
3. The vestus lateralis muscle on the lateral aspect of the thigh. The site of injection may be anywhere from approximately 4 inches below the hip joint.
4. Rectus femorus : Draw an imaginary rectangle in the middle third of the front part of the thigh.

5. The deltoid muscle:

This site is 2-3 finger breadths down from the acromion on the outer aspect of the arm. The essential danger is that of harming the radial nerve.

Procedure :

- 1-10. Same as for S.C. injection
11. Stretch the site of injection by thumb and four fingers, if patient is thin hold in a cushion fashion.
12. Remove the cover of the needle.
13. Insert needle carefully and quickly at an angle of 90° with the skin.
- 14-21. Same as for S.C. injection

\angle -track v
edge v

Intravenous Injection

Definition : ~~method of giving medicine or dye~~

Injection of liquid medicine or dye directly into a vein.

Purposes :

1. When a very rapid action is desired
2. For diagnostic test.
3. When the medication cannot be given by other methods.

Equipment :

Same as for S.C. injection plus :

- a. Syringe 2 cc to 50 cc size and needle
18-20 gauge, 1½ - 2 inches in length.
- b. Tourniquet.
- c. Splint if desired.

Site of injection :

1. Cephalic vein
2. Median basilic vein
3. Any accessible vein

Procedure :

- 1-9 Same as for S.C. injection .
10. Apply the tourniquet above the vein to make the vein more accessible.
11. Instruct patient to clench fist
12. Locate the vein by palpation .
13. Clean the site .
14. Remove the cover of the needle .
15. Be sure to remove air from syringe completely
16. With thumb of left hand, immobilized the vein by grasping area below injection .
17. Pull site downward to stretch the skin
18. Insert needle through the skin at (15°-45°) angle depending on patient (obese or not)
19. Withdraw plunger slightly to test whether needle is in blood vessel or not.
20. If blood appears, release tourniquet .
21. Tell patient to open fist

22. Inject small amount of medication, slowly and observe patient's reaction.
23. If there is no undesirable reaction inject entire dosage slowly.
24. Place alcohol sponge on injection site and withdraw needle.
25. Do not massage by alcohol sponge but apply pressure on the site .
26. Discard syringe and alcohol sponge properly
27. Leave patient comfortable .

Recording :

1. Date and time
2. Medication and dosage
3. Method of administration
4. Site of injection
5. Reaction of patient
6. Signature

INTRAVENOUS INFUSION

Definition :

Giving a large quantity of solution directly into a vein.

Purpose :

1. When a very rapid effect is needed.
2. When the drug is irritating or ineffective if given any other way.
3. In treating blood and blood vessels.
4. In severe disturbance of fluid and electrolyte balance
5. When the patient is unable to take and retain oral nourishment.

Equipment :

1. Infusion set (venoclysis unit, consists of the followings:
bottle of solution, air vent drip chamber,
clamp, tubing, needle adapter, needle used
for adult 18, 19, 20, 21, 22 gauge with short
bevel 1-1½ length.
2. Alcohol sponge.
3. Tourniquet.
4. Adhesive tape and scissors.
5. Sterile gauze 4 x 4 for dressing.
6. I.V. holder.
7. Clean kidney basin.
8. Arm splints.

Types of Needles :

1. Intra cath : large bore needle with plastic catheter.
2. Butterfly : small needle used for unstable/ vein.
3. Angiocath : a needle within plastic tubing.

Procedure :

All equipment must be prepared and placed on a cart or a tray.

- a. Carry the cart or tray to patient's bed side.
- b. Explain to patient what you will do.
- c. Check patient's name against name on chart, Speak patient's name.
- d. Expose site of injection.

: In Arm

1. The accessory cephalic or the median ante brachial in the lower forearm are preferred when a prolonged continuous drip is used, because these areas allow more motion of the part.
2. The dorsal metacarpal vein on the back of the hand.

: In Leg

1. The saphenous and femoral veins in the thigh and the saphenous at the ankle, leg vein should be used only by special written permission of the physician because of the possibility of phlebitis.

2. The venous plexus of dorsal the medial marginal vein and the lateral marginal vein in foot.

In Head In Head

1. Scalp vein are often used in infant
e- prepare the set (sterile precaution must be taken throughout procedure):
 1. Clean the bottle cover with alcohol sponge.
 2. Attach the tubing and airvent to the I.V. bottle.
 3. Hung the bottle up on the holder (the usual height of the bottle is 2-3 feet) at this height gravity is sufficient to allow the solution to enter the vein, the higher the solution, the faster the flow and visa versa.
 4. Remove needle cover, open the clamp, make the fluid run through the tubing, collect in the kidney basin by this way remove the air from the set and so it will not be introduced into the patient vein as air injected into vein can result an air embolus.
 5. Squeeze the drip chamber to fill it with solution till half of it.
 6. Close the clamp, cover the needle, keep it in safe place to prevent contamination.
 7. The back lying position permits either arm to be used and allow for good alignment.

8. Place the arm on support as necessary
9. Apply a tourniquet to the patient's arm (2-3 inches) above the site of entry.
10. Instruct patient to clench fist.
11. Locate and select an appropriate site by looking of and palpating the accessible vein, start with the farther site from the heart.
12. Clean the injection site with alcohol sponge using rotary motion and friction.
13. With thumb of left hand, immobilize the vein by grasping area about 2 inches below injection site then pulling down-ward to stretch the skin taut.
14. Insert needle after removing cover through skin at 30-45 angle when needle is through the skin, lower the angle of needle until nearly paralleled with skin, bevel up into the vein, as soon as the needle enters the vein, the nurse rotates the bevel to prevent puncture of the posterior wall.
15. The plunger of the syringe is drawn back to be certain that the needle is in the vein and if the blood appears, release tourniquet to relieve the increase venous pressure then tell the patient to open his fist.

16. Remove inner metal needle, leaving the plastic tube in place in the vein, then cover insertion site with sterile gauze (4x4) and tape securely, tubing should need an anchor to prevent tension on the needle.
17. Apply pressure with finger on inner tip of needle then attach the tubing and the needle to the arm and open the clamp.
18. Maintain rate of flow, the physician indicate the milliliters to be given with a period of time.

Rate of flow are :

- 15 Drop/min
- 20 Drop/min
- 60 Drop/min

Factors influencing the rate of flow are :

1. The size of the needle
2. The height of the bottle
3. The viscosity of the fluid

Observation and Nursing Response:

1. Check infusion frequently for proper flow Rate because if rapid flow causes overload on the circulatory system which cause tachycardia.

2. Observe to see that the solution continues to flow into the vein, if not the solution will flow into the subcutaneous tissue causes infiltration.
3. If patient needs more than one bottle of solution the nurse attaches the additional bottle.
4. If any medication are added to the bottle, label is applied to the bottle, dosage, date time and date.
5. Careless movement of the extremity may cause tension on the vein and possible dislodgement of the needle or catheter, the arm may be restrained on armboard.

The restraint should be loose enough to avoid interference with fluid flow or fluid, in lower part of the extremity.

Re- Starting flow or infusion:

1. Be sure that the clamp is open.
2. Massage I.V. site
3. Squeeze the clot in the solution by running the solution into kidney basin.
4. Aspirate the clot from the blood transfusion.
5. Be sure that the needle is in place.
6. If the tube is twisted, straighten it to continue the flow.
7. Be sure that the adhesive tape is not tight after closing the clamp then return it to bottle this will apply pressure to continue the flow.

Discontinuing I.V. infusion :

1. Close the clamp to stop the flow in tube.
2. Remove the tape which has held the needle in place.
3. Gently press a sponge with antiseptic solution over the needle and site of entry.
4. Remove the needle by pulling it out without hesitation. If the needle is removed by twisting, raising or lowering, it could damage the vein.
5. Apply pressure with sponge for a short time until bleeding stops.
6. Put dry gauze then plaster over it. If the patient is able to do so, he may be asked to hold the pressure for a minute or more.

Blood Transfusion :

- A blood transfusion is the infusion of whole blood or derivatives of a healthy person into a recipient vein.
- The person receiving the blood is called the recipient.
- The person giving the blood is called the donor.
- The laboratory examination to determine a person's blood type is called typing (A,B,AB,O).
- The process of determining compatibility between blood specimens is known as crossmatching crossmatching.

- Blood may be given by either direct or indirect way.

A- In an indirect transfusion

Blood is infused after it has been collected from donor and processed. This is the method used most commonly. Blood transfusion is usually given when the patient's total blood volume has decreased such as following a hemorrhage or anemic patient.

B- In a direct transfusion

The blood is infused as it is being taken from a donor. This method is rarely used, except in emergency.

Procedure :

The technique is similar to that for giving an intravenous infusion.

Equipment :

Use 16 gauge or 19 gauge needle and catheter for administration.

Recording :

1. Chart the amount and kind of I.V. fluid or blood in the intake and output chart.
2. Chart the kind of fluid you give, such as dextrose, normal saline.
3. The site of Intravenous infusion.

4. Any signs or symptoms appearing on patient.
5. Any drugs added and dosage for the infusion.
6. Signature.

Nursing Responsibility in blood transfusion :

1. Take the patient temperature and blood pressure before and after giving blood for comparison.
2. Be sure to give blood as soon as it is brought from the Blood Bank.
3. Gently invert the blood container to mix the red cell evenly.
4. Start an I.V. infusion as prescribed usually with normal saline the blood is then attached to the infusion in atandem arrangement.
5. Use slightly larger needle than for a regular infusion because of the viscosity of the blood.
6. Stay and observe the patient receiving blood for at least 5-10 mins. and give the blood at slow rate approximately 10-20 drop/min during the first 15 min. of the transfusion.
If the patient has no signs of reaction the rate increase to as fast as 60-100 drop/min. according to the physician prescription.
7. Don't add drugs to blood transfusion This is considered unwise because of possible effect of the drug on the blood system.

Complications Associated With Intravenous Infusion

Name and Definition	Causes	Signs and symptoms	Nursing Care
1. Infiltration: The escape of fluid into the subcutaneous tissue	<ul style="list-style-type: none"> - Dislodged needle - Penetrated vessel vein 	<ul style="list-style-type: none"> - Swelling, pallor, coldness, pain around the infusion site. 	<ul style="list-style-type: none"> - Check the infusion site often for symptom. - Discontinue the infusion if symptom occur. - Restart the infusion at a different site. - Limit the movement of the extremity with I.V.
2. Phlebitis: An inflammation of a vein.	<ul style="list-style-type: none"> - Mechanical trauma from needle or catheter. - Chemical trauma from solution. 	<ul style="list-style-type: none"> - Local acute tenderness, redness, warmth and edema of the vein above the insertion site. 	<ul style="list-style-type: none"> - Discontinue the infusion immediately - Apply warm, moist compress to affected site. - Avoid further use of the vein. - Restart the infusion in another vein.

Transfusion Reaction

Reaction	Signs and Symptoms	Nursing care
1. Allergic reaction: Allergy to transfused blood.	- Hives - Itching - Anaphylaxis	1. Stop transfusion immediately. 2. Notify physician stat. 3. Administer antihistamine parenterally as necessary.
2. Febrile reaction: Fever develops during infusion.	- Fever and chills - Headache	1. Stop transfusion immediately 2. Notify physician 3. Treat symptoms
3. Hemolytic transfusion reaction: Incompatibility of blood product.	Immediate onset Facial flushing Fever, chills, headache Lowback pain, shock	1. Stop infusion immediately 2. Notify physician stat. 3. Obtain blood samples from site 4. Obtain first voided urine 5. Treat shock if present.
4. Circulatory overload: Too much blood administered.	- Dyspnea - Dry cough - Pulmonary edema	1. Slow or stop infusion 2. Monitor vital signs 3. Notify physician
5. Bacterial reaction: Bacteria present in blood.	- Fever - Hypertension - Dry, flush skin - Abdominal pain	1. Stop infusion immediately 2. Monitor vital signs 3. Notify physician 4. Administer antibiotics stat.

Complication Associated With Intravenous Infusion

Name and Definition	Causes	Signs and Symptoms	Nursing Care
3. Thrombus: A blood clot from needle or catheter	- Tissue trauma from needle or catheter	- Symptoms similar to Phlebitis, Intravenous flushed flow may cease if clot obstructs needle.	<ul style="list-style-type: none"> - Stop the infusion immediately. - Apply warm compresses as ordered by the physician. - Do not rub or massage the affected area.
4. Speed shock: The body's reaction to a substance that is injected into the circulatory system too rapidly.	- Too rapid flow rate of fluid infusion into circulation	<ul style="list-style-type: none"> - Pounding headache, fainting, rapid pulse rate apprehension, chills, back pains and dizziness. 	<ul style="list-style-type: none"> - If symptom develop, discontinue the infusion immediately. - Report symptoms of speed shock to the physician immediately. - Monitor vital signs if symptoms develop. - Use the proper I.V tubing. A microdrip (60 gtt/ml) should be used on all pediatric pt. - Carefully monitor the rate of fluid flow. - Check the rate frequently for accuracy. A time tape is useful for this purpose.

Fundamentals of Nursing

H

2.5 - 3 Liver Disease

Name and Definition	Causes	Signs and symptoms	Nursing care
5. Fluid Overload: The condition is caused when too large volume of fluid infuses into the circulatory system.	- Too large volume of fluid infused into circulation.	- Engorged neck vein, increase blood pressure and difficulty in breathing (dyspnea)	<ul style="list-style-type: none"> - If symptom develop, slow the rate of infusion. - Notify the physician immediately. - Monitor vital signs. - Carefully monitor the rate of fluid flow. - Check the rate frequently for accuracy.
6. Embolus: A foreign body or air in the circulatory system.	<ul style="list-style-type: none"> - Thrombus dislodges and circulates in the blood. - Air enters the vein through the infusion line. 	<ul style="list-style-type: none"> - Dependent on whether the embolus causes an obstruction or infection in the circulatory system 	<ul style="list-style-type: none"> - Check the site regularly to identify signs of phlebitis. - Don't allow air to enter the infusion line. - Treat phlebitis with the utmost caution, - Report any sudden pain or breathing difficulty immediately.

Name and Definition	Causes	Signs and symptoms	Nursing Care
7. Infection: An invasion of pathogenic organisms into the body.	<ul style="list-style-type: none"> - No sterile technique used in starting infusion. - Improper care of infusion site. - Contaminated I.V. solution 	<ul style="list-style-type: none"> - Fever, malaise and pain, swelling, inflammation or discharge at I.V. insertion site. 	<ul style="list-style-type: none"> - Use scrupulous aseptic technique when starting an infusion. - Change the dressing over the site regularly. - Change I.V. tubing every 24 hours if agency policy permits. - Always wash hands before working with the I.V.

ORAL HYGIENE

Definition :

The process of cleaning and freshening the teeth, gums and mouth.

Purposes :

1. To keep the teeth, gums and mouth in good condition.
2. To freshen the mouth and relieve it of offensive odors (halitosis).
3. To prevent sores and infection.
4. To provide a sense of well-being and comfort.

Terminologies :

1. Halitosis : Foul odor of the breath, which is caused by an excessive number of bacteria.
2. Sordes : A collection of bacteria, food particles and epithelial tissue in the mouth.
3. Caries : The decay of teeth with the formation of cavities.
4. Periodontitis or (Pyorrhea) : Severe inflammation of the gums, including bone tissue around the teeth.

Equipment :

- A. for daily routine cleaning.
1. Tray.

- مُنَادِيَات
2. Tooth brush (should have stiff bristles).
 3. Tooth paste.
 4. Emesis basin or kidney basin. دُعَاء كَلْوَى
 5. Face towel.
 6. Paper wipes.
 7. A glass containing water or mouth wash.
 8. Dental floss (if needed).
- أَسْنَان

Procedure :

1. Wash your hands by using medical aseptic.
2. Collect all the equipment, be sure that they are clean.
3. Explain to the patient.
4. Raise head of bed if patient's condition permits you. If not turn patient's head to the side slightly raise on a pillow. Place the towel under the chin.
5. Hold tooth brush over basin. Pour a small amount of water and tooth paste.
6. Place emesis basin or kidney basin under the chin of patient. Have the patient hold it.
7. Brush teeth with a slow gentle motion, upper teeth downward, lower teeth upward and brush in side surface in the same manner.
8. Brush back and front to clean the biting surfaces. Repeat this stroke 5 times in each section of the mouth, both inside and outside
9. Brush gums and tongue.

10. Give patient's mouth wash in between and as needed. Wipe patient's mouth with towel when you finish.
11. Use dental floss if needed, to remove dental plaque and bits of food from the spaces between the teeth and from adjoining tooth surface.
12. Put patient in a comfortable position.

After care :

1. Rinse tooth brush under running water and bring the glass to the bedside table.
2. If you use mouth wash cap basins, wash with soap, rinsed and sterilize.
3. Wash your hands.

Charting :

1. Condition of teeth and mouth.

2. Date and time.

3. Name of the nurse.

B. Special mouth care.

May be done hourly and formation of sordes and in the following cases:

Helpless patient, such as in case of trauma, surgery, critical illness, ... etc. Also when patient is on N.P.O. (Nothing by Oral) and when receiving inhalation gases.

Equipment :

From 1 - 8 The same as routine cleansing.

9. Mouth gag e.g. special forceps or padded tongue.
10. Gauze squares.
11. Cotton applicators.
12. Tongue depressor.
13. Mouth wash cup (containing water, normal saline, hydrogen peroxide, lemon juice in water).
14. Bulb syringe.
15. Flash light.
16. Dental floss (if needed).
17. Lubricant e.g. glycerin or vaselin and or medication (if ordered).
18. Waste container or paper bag.

Procedure :

1. Wash your hands.
2. Collect all the equipment.
3. Explain to the patient.
4. Place patient in a suitable position according to condition, turn head to one side if lying flat or in a reclining position.
5. Using flash light to examine patient's teeth and gums.
6. Place towel and emesis basin under patient's chin.
7. Use mouth gag to hold it open if the patient had to close his mouth.
8. Use tooth brush very carefully and only if condition of patient and patient's mouth permits, otherwise, use a large cotton applicator (swab).

9. Make swab by wrapping a large cotton around end of narrow tongue depressor and secure; moisten with water or mouth wash solution.
10. Clean as follow :
 - A. Clean the upper teeth from gums downward then lower teeth from gums upward.
 - B. Clean inner and outer surfaces of teeth in much the same way as if using a brush.
 - C. Clean tongue with gauze swab and inside of mouth with cotton applicators. (change swabs and applicators after each use).
11. Allow the patient to rinse mouth, if possible rinse mouth with fresh moistened swab, bulb syringe, or medicine dropper according to condition and need of patient.
12. Use dental floss only if especially indicated or ordered. Slip carefully between the teeth and draw down the sides of one tooth, then another.
13. Use applicator to apply lubricant or any medication ordered to gums or tongue or lips.

After Care :

1. Discard solid equipment in paper bag.
2. Replenish articles on tray.

Charting :

Record and report any unusual conditions.

Points to remember :

1. Oral hygiene may need to be modified for certain patient. If the patient is able to assist with his mouth care, he should be offered the necessary materials upon awakening in the morning, before bed time, after each meal and between meals as indicated.
2. Keep the head in such position that even a small amount will not be aspirated by the patient.
3. Change swabs and applicators after each use.
4. Use mouth gag to hold it open if the patient tends to close his mouth. Do not use the fingers to hold a patient's mouth open.
5. A solution of half water and half hydrogen peroxide is an effective cleaning agent in such instances. The H_2O_2 releases O_2 and causes a froth which helps break up dried and sticky particles. Avoid prolonged use of H_2O_2 since it may damage tooth enamel.

Care of Dentures

Definition :

Cleaning the false teeth of an individual.

Purpose :

1. To maintain cleanliness and comfort.
2. To prevent infection of the mouth.
3. To prevent bacteria from traveling to the digestive tract.

Equipment :

1. Denture brush or tooth brush.
2. Tooth paste.
3. Container for dentures (cup).
4. Paper wipe.
5. Denture cleaner (dentifrice).
6. Gauze.
7. Towel and curved basin to give mouth care.

Procedure :

- 1-3 Same as routine cleaning.
4. Ask patient to remove dentures (partial or complete) if able, or if necessary use paper wipes to grasp plate to remove gently.
5. Place dentures in denture cup or in curved basin and take to lavatory (sink) other appropriate place to clean.
6. Place several layers of gauze in bottom of cold water, hold denture low over basin to clean.
7. Brush the dentures as in routine cleaning.
8. Rinse with running cold water (not hot), brush thoroughly with dentifrice and rinse well.
(Hot water should never be used to rinse dentures, since it will damage the denture material).
9. Place denture in clean denture cup and cover with fresh water or mouth wash solution.
10. Clean or assist patient to clean gums and tongue by rinsing his mouth.

11. Ask or assist patient to replace denture in mouth. Keep denture in denture cup, if not replace in patient's mouth, mark with name of patient and place cup in a safe place and near patient.

Recording :

1. Date and time.
2. Observation :
 - a. The condition of the mouth.
 - b. Be sure that the denture fit properly.
 - c. Note the condition of the denture.
3. Name of the nurse.

Teaching the patient :

1. Teach the patient the importance of proper mouth and denture care.
2. Stress the importance of dentures fitting properly in mouth. A patient should be taught that when he keeps denture out of his mouth for long periods the chances for improperly fitting dentures.
3. Brush and rinse denture after each meal.

Points to remember :

1. Rinse with cold water (not hot).
2. Have patient rinse mouth before putting denture in.
3. Teaching the patient not to keep dentures out of his mouth for a long time.

CLEANSING BATH

Definition :

The entire body of the patient is washed at the bedside by the nurse.

Type of bed bath :

1. Complete Bed Bath : The entire body of the patient is washed at the bedside by the nurse.
2. Abbreviated Bed Bath : Only the parts of the patient's body that might cause illness oder or discomfort if neglected are washed, this includes face, axilla , genitalia region back and hands.
3. Partial Bath : Complete or partial bathing of the patient's body at the sink or tub or in the shower.

Purposes :

1. To promote hygiene and provide comfort and relaxation to a tired, restless patient.
2. To observe the patient's skin condition.
3. To encourage the patient to be independent as possible or allowed.
4. To assess the patients range of motion.
5. To promote elimination from the skin.

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6. To promote muscle tone by active or passive exercise.
7. *(plus)* To establish a communication pattern between patient and nurse that promotes health teaching and resolution of patient concerns.

Equipment :

1. Bath towel.
2. Wash cloth.
3. Soap in a soap dish.
4. Lotion.
5. Powder, if desired.
6. Two large pitchers one for cold H₂O and the other for hot H₂O.
7. Clean set of linen.
8. Clean gown.

Patient Preparation :

1. Explain to the patient what are you going to do.
2. Screen the unit.
3. Offer bed pan.
4. Give mouth care.
5. All necessary equipment should be gathered prior to beginning the procedure (to avoid chilling the patient with unnecessary delays)
6. In a bed bath, the top bed linen should be removed and replaced with a bath blanket, which provides warmth, and absorbs moisture.

Procedure :

1. See that the room is well screened and comfortably warm.
2. Remove unnecessary articles from bed side table, then put every thing needed on it.
3. Fill bath basin about two thirds full with hot water and place on bed side table.
4. Remove bed spread and blanket, fold over back of chair, put bath blanket over patient, go to foot of bed and pull out top sheet, fold top sheet and place on back of chair.
5. Move patient to the near side of the bed (lower the side rails on the side near the bed side table).
6. Remove the gown, being careful to keep patient covered with a blanket.
7. Remove the pillow unless patient is more comfortable.
8. Spread towel across patient's chest.
9. Make a bath mitt, grasp the washcloth at one edge and fold one third over the palm of your hand bring the extreme end of the cloth up to your palm and tuck the edge under the upper edge.
10. Prepare the bath water at (43.3°C to 46.1°C), place the soap dish near the basin of water. Raise the bed to a working level. (warm water tends to relax muscles and stimulate circulation by dilatation of the blood vessels).

11. Wash the patient's face and neck. The patient may wash his own face if able, use soap only if the patient desires. If the patient is unable to do this, moisten the bath mitt with water and wash one eye from the inner lid to the outer side near the ear. Rinse the cloth before washing the other eye. Dry well, wash the forehead from center to side, rinse and dry it well. (Soap should not be used if the patient objects, is allergic to it or has excessively dry skin).
12. Wash patient's arms if an intravenous infusion needle is in place, take care not to disturb the needle.
13. Wash the chest and abdomen. Place a towel over the patient chest, fold the bath blanket to the waist line, make a bath mitt and wash under the towel to include the entire chest. Wash the breast with circular movements, rinse and dry well. Fold the blanket to the top of the pubic bone and wash lower abdomen. Dry well.
14. Flex knee on far side and expose leg. Spread towel lengthwise under leg. Holding one hand under knee to give support. Wash and dry leg. Flex knee, spread towel to protect bed and place bath basin on it in position to wash foot. Place foot in water and wash heel of foot in the palm of your hand, lift foot from water and withdraw basin with other hand. Dry foot. Bath other leg and foot in same manner.

15. Change the bath water. Remove and obtain fresh water (43.3°C to 46.1°C) return to the patient and complete the bath.
16. Wash the patient's back. Turn the patient to the side. Wash the back with long sweeping motions. Rinse and dry well.
17. Wash the perineal area, spread towel under hips, place basin and soap within easy reach of patient, give patient lightly soaped washcloth and ask him to finish the bath.
18. Put a clean gown on patient.
19. Comb hair, protecting pillow with face towel.
20. Clean and trim nails as needed.
21. Permit the male patient to shave, assemble an electric shaver, a mirror, and the patient shaving lotion. Provide warm water and shaving cream if the patient uses safety razor.
22. Make an occupied bed, leave patient comfortable.

After Care :

1. Take bath basin to utility room.
2. Equipment and reusable items are cleaned and returned to the storage, disposable items are discarded after use, soiled linens are put in soiled linen hamper.
3. Wash your hands.

Charting :

1. Chart care in nurses' note.
2. Note anything unusual in patient condition, attitude, or behavior in nursing care plan and report to charge nurse.

Points to Remember:

1. The room should be warmed no drafts.
2. Provide privacy for patient and screen the unit.
3. Check temperature of water with bath thermometer.
4. Watch for signs of fatigue during bath.
5. Work quickly and smoothly.
6. Do not allow bath water to become cool add hot water.
7. Be sure to rinse all soap from skin and dry thoroughly.
8. Change bath water at least once during bath.
9. Be sure to leave signal bell within reach.
10. Report any abnormal reaction to charge nurse.

BACK MASSAGE

Definition :

The massage of individual's back as a therapeutic and comfort measure.

Purpose:

1. To stimulate circulation and thus increase blood supply to the area.
2. To observe the skin for signs of impaired circulation or break down (pressure area)
3. To relieve tension and promote relaxation.
4. To convey personal concern for the patient.
5. To feel comfortable.

Equipment :

1. Wash basin containing warm water.
2. Bath towel.
3. Lotion, powder or alcohol.
4. Powder.
5. Wash cloth.

Procedure :

1. Collect the equipment needed and take them to the bed side for use.
2. Wash your hands.
3. Explain to patient what you are going to do in simple terms so the patient understands.
4. Provide for privacy by closing the door of the room or pulling the curtain around the bed.
5. Position the patient to lie on abdomen, some patients may need to lie on their side. Put the bed in high position and have patient near the side so you can reach the back easily.
6. Place the towel over lower buttocks if patient is in prone position and lay the towel along the back to protect the bed linen when the patient lies on the side.
7. Apply rubbing solution or powder to your hands so the oil and lotions may be warmed before using.
8. Pour alcohol into hands (not directly onto the back) and massage the back and buttocks using long firm strokes, hands moving symmetrically.
9. Put powder into hands and continue massage.

10. To leave the patient comfortable, excess skin moisture should be removed with a towel.

After care :

Return equipment back to utility room and return to proper place.

Recording :

1. Observation :
 - a. Note the reaction of the patient to his backrub.
 - b. Appearance of back, particularly any area discolouration or breakdown or other abnormal findings, should be recorded.
2. Charting :
 - a. Date and time.
 - b. If the skin on the back is in good condition after backrub.

Points to remember :

1. If skin is dry, do not use alcohol rather, use lotion, vaseline or oil.
2. Massage must be applied upon the bare skin.

HAIR SHAMPOO

Definition :

The cleansing of hair and scalp of a patient confined to bed.

Purposes :

1. To promote mental and physical comfort.
2. To maintain cleanliness of hair and scalp.
3. To prevent tangling and matting of hair.
4. To stimulate the circulation of scalp.
5. To improve appearance.
6. To improve the nourishment of the epithelium.
7. To prevent unnecessary exertion by the patient.

Equipment :

1. Small pitcher.
2. Large pitcher (Basin) for clean water.
3. Liquid shampoo or soap.
4. Plastic trough.
5. Basin or pail for waste water.
6. Bath towel two or more.
7. Bath blanket.
8. Hair dryer if available.
9. Bath thermometer.
10. Comb and Brush.
11. Cotton balls for ears.
12. Oil if needed.
13. Rubber or plastic sheet (To protect seat of chair).
14. Rubber or plastic sheet (To cover pillow).

Preparation of patient :

1. Assemble materials needed for the procedure.
2. Identify the patient and explain the procedure to him to gain his cooperation.
3. Close the window and door to minimize drafts.
4. Screen the unit.
5. Protect patient's ear with cotton ball.
6. Brush hair to remove tangles before the procedure .

Procedure :

1. Prepare the patient in correct position on his back near the side of the bed.
2. Put bath blanket in place and top beddings folded toward the foot of the bed.
3. Place a towel securely around the patient's shoulder.
4. Remove the pillow under the patient's head and place it under the patient's shoulder so that the head is slanted to the back with face away from you.
5. Place rubber covered pillow well down under near patient's shoulder.
6. Slip the trough under the patient's head, providing it with sufficient slope for pail on the chair.
7. Place a chair at the head of the bed and protect it with the plastic cover and put a pail on the stool or chair.
8. Fill pitcher with warm water (105°F , 40.5°C) using a bath thermometer to measure the temperature.

9. Moisten the patient's hair with water before applying the shampoo.
10. Apply the shampoo and work it into the hair from the front hair line to the back of the head. Messaging the scalp firmly with your finger tips and comb the hair.
11. Rinse well with water being sure all the shampoo is removed. Move finger tips through hair and taking care that the water drains properly into the trough.
12. Repeat the cycle (steps 10,11) until the hair is clean.
13. Remove the cotton balls from the patient's ears and squeeze water from hair.
14. Remove the towel and other materials from the bed and dispose of all soiled materials.
15. Restore the linen and bed to their original position, put back the pillow and remove the bath blanket.
16. Rub patient's hair with towel.
17. Comb hair with clean comb and use hair dryer if available and acceptable by the patient.
18. Leave a towel under patient's head until hair is completely dry.
19. Tidy the area, returning all articles to their proper places.
20. Leave the patient in a comfortable position and open the unit.
21. Record the time and method of the shampoo in nurses notes.

Points to remember :

1. Choose a time when patient is rested and can have a rest period after shampoo.
2. Work quickly and smoothly to prevent tiring patient.
3. Note and record anything unusual about hair and scalp.
4. Be sure to protect eyes and ears and have patient keep eyes closed.
5. Don't allow patient to become chilled and minimize drafts.
6. Avoid scratching the patient's scalp with sharp finger nails or rings.
7. Oils may be used to help comb out tangled hair before shampooing.
8. Be sure to obtain the patient's family permission if cutting is available when it has become very tangled.

The Enema

An enema is the introduction of fluid into the rectum and colon by means of a tube.

Types of Enema :

- a. Non retention enema.
- b. Retention enema.

Non retention enema :

Solution given with the intention of its being expelled within a few minutes, along with feces, gas and other substances.

Types of Non retention enema :

- 1. Cleansing enema.
- 2. Carminative enema.
- 3. The anthelmintic enema.

Cleansing enema :

Is injection of fluid into the rectum to induce a bowel motion.

Purposes :

- 1. To clean or remove accumulated fecal material or gas, from lower bowel.
- 2. To stimulate peristalsis in the bowel.
- 3. In preparation for examination, x-ray or surgery.
- 4. In preparation for surgeries on intestines or pelvic surgeries to prevent possible infection.

Equipment :

Tray containing :

1. Irrigating can.
2. Rubber tube.
3. Regulating clamp.
4. Rectal tube or tip (Plastic or rubber) size (26-32 Fr for adults) or catheter.
5. Gauze smeared with a lubricant.
6. Kidney basin.
7. Water proof sheet.
8. Bed pan (if the pt. can not go to the toilet).
9. Toilet paper.
10. Stand (for hanging can or bottel).
11. Lotion thermometer.
12. Solutions.
 - a. Soap solution (5ml of liquid soap per 1000 ml water).
 - b. Normal saline (salt).
 - c. Tap water (TWE)
 - d. Hyper tonic solution (draw fluid for tissues).

Amount of Solution :

1. Child under 1 year 100-250 ml.
2. 1-6 years 250-500 ml.
3. Adults 500-1000 ml.

Preparation of the patient :

1. Explain to patient the procedure in simple reassuring terms.
2. Screen the bed.
3. Offer a bed pan or urinal for the patient to empty the bladder.

4. Lower or adjust bed to flat position if possible and permissible.
5. Protect the bottom sheet with water proof sheet.
6. Place the standard on the right side of the bed.
7. Place covered bed pan on chair near side of bed.

Important step for the enema :

1. Prepare in the utility room the solution in the irrigation can.
2. Test the temp. of solution with lotion thermometer, which should be between $40-43^{\circ}\text{C}$.
3. Expel air from tubing by opening the clamp and allowing the solution to run through, then reclamp the tubing.
(allowing air to enter the bowel is not harmful, but it may make it more difficult to introduce solution if bowel pressure from flatus and a constipated stool is great).
4. See that all equipment is on tray, cover with towel and take to side table.
5. Help the pt. into the left lateral position and ask him/her to flex the knee as possible, this position allows the fluid to run down into the Sigmoid colon which slopes to the left of the pelvis. Right lateral or dorsal position can be used if for any reason, the patient is unable to lie in a left lateral position.
Flexing the knee relaxes the abdominal muscles, which helps the patient to keep the fluid in.

6. Place a procedure blanket over the top bed clothes, fan-fold the top bedding to the foot of the bed, the patient should be well covered, and only the anal region exposed.
7. Hang the irrigation can on the stand about (18 inch) above the anus level.
8. Lubricate the catheter with gauze smeared with a lubricant about 2 inches taking care not to block the eye of the tip tube or catheter.
(lubrication, prevents injury of rectum while inserting the rectal tip).
9. Open the clamp to allow some fluid to run through the catheter into kidney basin then close the clamp.
10. With free hand, raise the upper buttock in order to see rectal opening, insert the tube gently into the rectum about (5-10 cm) and ask patient to take deep breathing.
Forcing a tube may cause injury to the intestinal wall, taking deep breath help relax the anal sphincter.
11. Open the clamp and allow the fluid to run in slowly under low pressure.
12. Watch the patient closely and if there are signs or complaints of pain, nausea or faintness, discontinue the procedure to make the patient comfortable and report to the charge nurse.
13. When the required amount of solution has run in, close clamp before the rest of the fluid runs through to prevent the entry of air which causes additional discomfort in abdomen, pinch off the tube near patient's body and remove tube.

14. Wrap the tip of the rectal tube in a piece of toilet paper and place it in the kidney basin.
15. Encouraging patient to hold the fluid for 10 minutes is necessary for good results.
16. Turn the patient on back and replace pillows then help patient on to the bed pan.
17. Elevate the head of the bed and place the toilet roll and single bell within reach.
18. Take equipment to utility room for cleansing.
19. When patient has finished expelling enemas, assist the patient to use toilet roll if necessary.
20. Remove the extra water proof sheet, attend to the pressure areas if necessary, and leave the patient comfortable.
21. See that the patient's hands are washed and wash your hands, air the room.
22. Record the result of the enema.
 - a. Time of treatment.
 - b. Solution used and amount taken.
 - c. Results.
 1. Color and consistency of the faeces e.g. well formed, soft, hard, fluid, semi-solid.
 2. Amount of fluid returned must be measured if there is little or no faecal matter present.
 3. Any abnormalities present e.g. pus, blood, mucus, worms, foreign bodies.

After care of equipment :

1. Empty bed pan and wash thoroughly after recording.

2. Wash your hands.
3. Flush the rectal tube in cold running water, wash in hot soapy water, rinse under running water.
4. Coil tubing wrap in gauze and drop into actively boiling water and allow to boil for 10 minutes, or as instructed.
5. Wash enamel can in hot soap water, rinse place in large sterilizer and allow to boil for 20 minutes, or as instructed.
6. Return all equipment to proper place.
7. If the set is disposable discard properly.

Carminative Enema :

It is given to help expel flatus from the colon.

Type of treatment :

1. Solution consists of milk 240ml and molasses 240 ml.
2. Sodium bicarbonate 10-15 gr per 100ml of water.
3. M.G.W. or 1.2.3 (from pharmacy)
 1. Magnesium sulfate 50% 30 ml
 2. Glycerine 60 ml
 3. Water 90 ml
4. Harris flush
(up and down flush) lower bowel irrigation which promotes the expulsion of flatus from the intestines.
5. Passing rectal tube.

Equipment :

- A tray or trolley to carry :
- Rectal tube.
 - Connection.
 - Tubing.
 - Kidney basin containing gauze smeared with lubricant.
 - Large basin of water.
 - Adhesive tape and scissors.

Procedure :

1. Preparation of patient similar in cleansing enema.
2. Connect the tubing and rectal tube, then lubricate the end of the tube.
3. Place the large basin of water on a chair at the side of the bed, and invert the end of tube under the surface of the water.
4. Gently insert the rectal tube into the patient's rectum for about 10 cm and watch for the bubbles in the water caused by the escaping gas.
5. Leave the tube in position for the required time which may be upto 30 minutes, strap the tube to the patient's thigh to hold it in position.
6. When the bubbles cease, remove the tube into the gauze smeared with lubricant.
7. Observe the patient's abdomen and note whether it is less distended, ask the patient about the effectiveness of the procedure.
8. Make the patient comfortable then wash your hands.
9. Record and/or report the result of the procedure which may need to be repeated until the patient resumes normal bowel activity.

10. Clean and sterilize the equipment used.

The Anthelmintic Enema

It is used to remove or destroy intestinal parasites and it can be retention.

Solution consists of water, or any chips per 250 cc of water, or any other medicine prescribed.

Retention Enema :

Is a slow introduction of certain substance to be withheld in the bowel.

Purposes :

1. To supply fluid, and nourishment to the patient.
2. To stop local hemorrhage.
3. To introduce medication into the system for local or systemic effect.
4. To decrease body temperature through coolant contact with proximal vascular system.

Type of retention enema :

1. Oil enema ; Lubricates intestinal mucosa and soften faeces.

The solution is :

1. Vegetable oil (olive oil) 150-200 ml warmed to 100°F or 37.8°C.
 2. Glycerine 90 ml per 120 ml of water.
2. Antipyretics enema; It is used to reduce body temperature.

Solution :

Cool water temperature is 95°F or about 35°C.

3. Emollient enema: It is used to protect and soothe intestinal mucous membrane.
Solution :
Starch may be used as well certain medicine.
4. Nutrient enema : It is used to supply body with nutrients and/or fluid.
Solution : is dextrose.
5. Sedative enema : It is used to induce sleep
Solution:
 1. Paraldehyde dosage ordered added to 30 ml of water.
 2. Chloral hydrate dosage ordered into 30 ml of mineral oil.
6. Barium enema : The X-ray visualization of the large intestine resulting from the introduction of barium into the lower intestine.

Equipment and preparation of patient :

The same as in cleansing enema.

Procedure :

1. The rectal tube is well lubricated (usually with a water soluble lubricant) in order to facilitate its insertion into the rectum and to lessen the irritation of the mucous membrane.
2. The rectal tube is inserted approximately 4 inches into the rectum (if the patient takes a deep breath while the tube is being inserted the anal sphincter relaxes and the rectal tube can be inserted more easily).

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3. The solution for an enema is released slowly for the patient's comfort and to avoid damage to the mucous membrane.
4. The solution container should not be more than 6 inches above the level of the bed.
5. The rectal tube is pinched and removed.

After care :

1. Encourage patient to retain solution for designated period of time.
2. Keep patient quiet following the treatment.
3. Straighten the bed and make patient comfortable.
4. Remove equipment.
5. Clean equipment and sterilize by boiling.
6. Return equipment to their places.
7. Recording is similar to non retention enema.

Points to remember :

1. A fine catheter is substituted for a rectal tube in order to reduce to minimum the irritation likely to stimulate defecation.
2. A cleansing enema should be given after the following retention enemas:
 - a. oil retention enema : to remove softened or any remaining impacted faeces.
 - b. Barium enema : as barium is constipating.
3. A bedpan should be within reach, but it should not be within sight of the patient because it stimulates defecation.

4. A cleansing enema should be given 1 hour before giving retention enema for administration of :
1. Drugs
 2. Nourishment.
 3. Barium prior to X-ray

Rectal Suppositories :

Suppositories are cone shaped and made of gelatine or cocoa butter with an active ingredient such as glycerine or Dulcolax added.

The active ingredient irritates the bowel lining causing contraction of the bowel wall and in some cases it causes water tube drawn from the tissues into the faecal mass.

Purposes :

1. To reduce body temperature.
2. To softens the faecal mass.
3. To make faeces easier to expel.

Equipment :

1. Suppository ordered.
2. Kidney basin.
3. Disposable glove or finger stall.
4. Gauze smeared with lubricant.
5. A covered bed pan should be near at hand.

Preparation of the Patient :

Similar in cleansing enema also the position.

Procedure :

1. Use disposable glove or finger stall to protect the finger, to be used when inserting the suppositories.
2. Remove the foil wrapping, then apply lubricant to the suppositories and to the covered finger.
3. Gently insert suppository as far as possible into the rectum.
4. Help the patient into a comfortable position and make sure the bell is within easy reach.
5. Check every few minutes to see whether the patient needs a bed pan, suppositories should be retained for 20 minutes or longer.
If patient is allowed to get up, a commode should be provided.
6. Wash patient's hands and your hands.
7. Report the result and if required, record it on the patient's chart.

Catheterization
of Urinary Bladder (Female)

Definition :

The procedure of insertion of a catheter (a tube) through the urethra into the urinary bladder.

Types are :

1. Non retention : Plain or straight catheter for temporary intubation.
2. Retention : Foley catheter, for prolonged intubation and continuous free drainage.

Purposes :

1. To empty the bladder in case of temporary retention of urine after all nursing measures have failed to help patient void.
2. To control urine flow in case of incontinent patient as part of bladder retraining program by emptying the bladder at regular intervals.
3. To keep skin dry and prevent irritation in case of incontinence.
4. To obtain a sterile urine specimen for culture and sensitivity.
5. To irrigate the bladder.
6. To instill medications.
7. To determine the amount of residual urine.
8. To prevent strain on pelvis or abdominal wounds from distended bladder.
9. To relieve distention of bladder before going to operation such as pelvic operation and delivery.

10. To prevent irritation of pelvic (perineal) incision.

Equipment :

- A. Sterile (if available-sterile disposable set is preferable).
1. Sterile Tray.
 2. Gloves (two pairs in case one is contaminated).
 3. Lubricant (water soluble).
 4. Towel.
 5. Cleansing solution } in container
 6. Cotton balls }
 7. Forceps (one pair).
 8. Appropriate catheter for specimen purposes. a. Children: No.8 or 10 Fr. b. Females: No.14 or 16 Fr. c. Males: No.20 or 22 Fr.
 9. Specimen container (if necessary) with label.
 10. Aseptic syringe (10-30 cc) or as stated on catheter.
 11. Normal saline or distilled water.
 12. Penetrated towel and drape.
- B. Non sterile
1. Drape sheet (bath blanket).
 2. Water proof sheet (protective sheet).
 3. Urine receptacle or appropriate drainage system for retention types.
 4. Artificial light (Gooseneck lamp).
 5. Waste container or paper bag.
 6. Adhesive tape.

7. Clamp.
8. Container holder (urine bag holder).

Procedure :

1. Wash hands thoroughly.
2. Assemble all equipment in utility room.
3. Add Cleansing solution(s) to sterile tray, if not prepackaged. Also, place a small amount of sterile lubricant on sterile gauze squares, if not included.
4. Explain the procedure to the patient (or his parents, if a child) to elicit as much co-operation as possible.
5. Provide for absolute privacy. Place screen properly since this procedure can be embarrassing to the patient, a adequate screening and draping are necessary. A sign on the door will help, ensure that there are no interruptions.
6. If the catheterization is to determine the amount of residual urine, the patient should void prior to catheter insertion.
7. If the purpose is to obtain a sterile specimen, the patient should not have voided for 30 minutes prior to the procedure.
8. Bring all equipment to the patient's unit.
9. Have patient on a firm mattress or on a treatment table.
"The meatus is difficult to see when the patient sinks into a mattress and the bladder may fall lower than the meatus making drainage from the bladder difficult."

10. Provide for good light. An artificial light is recommended.
"Good light is necessary to see the meatus clearly."
11. Position the female patient ...
 1. Put drape sheet (Bath blanket) over the spread. Ask patient to hold edge of drape sheet with her two hands (if able). Fan-fold top bedding to foot of bed.
 2. Position patient in the dorsal recumbent position with knees flexed deeply and the feet about two feet apart, then arrange the drape on the patient as follow :
 - a. Fold corner of drape sheet at foot of bed up to the patient's hips.
 - b. Wrap corner of drape sheet on right side of bed around patient's right foot.
 - c. Wrap corner of blanket on left side of bed around patient's left foot, leaving the genital area exposed.
"Good visualization of the meatus is important. Embarrassment, chillness , and tension can interfere with introducing the catheter. Comfort of the patient will promote relaxation"
"See that patient is no more strain than is necessary to stay in position. Do not lean on patient's knee when bending over bed during procedure; rather allow the patient to lean her knee against your chest."

"Explain to patient that any change in her position might contaminate the sterile equipment".

12. If the patient is soiled, the area around the meatus is well cleansed with soap or detergent and water, rinse, and dry (i.e. perineal care).

"Having the area as clean as possible decreases the chance of introducing organisms into the bladder."

13. Place water proof sheet under female patient's buttocks. Ask patient to raise buttocks as able.

14. Focus light to give clearest view of genital area.

"A strong light without shadows is necessary because you must not try to locate patient's meatus without being able to see it clearly.

15. Place tray (or catheter set) on bed between patient's leg.

16. Open the tray (set).

17. Take out the catheter of it's pack by using the sterile forceps or as convenient.

18. Pour the cleansing solution on cotton balls in the sterile container (if the set is disposable).

19. Don or put on sterile gloves.

20. Arrange the equipment so that articles for cleansing are on near side, in order that you will not have to reach over other articles and provide convenience in working.

"Reaching across sterile items increases the risk of contaminating them when sterile gloves are worn. In this case, there is also danger of area being contaminated by becoming wet."

21. Generously lubricate the catheter for about 3.5-5 cm being careful not to plug the eyes of the catheter. Individual packets of lubricants are recommended.
"Lubricant reduces friction between the catheter and the urethral tract, minimizing mechanical injury to tissue, which predispose to urinary tract infection and inflammatory process, and makes inserting the catheter easier. Plugging the catheter prevents drainage of urine. Multiple use tubes of lubricant are likely to become contaminated."
22. Wrap the edges of a sterile towel around gloved hands while placing the towel under the edge of the patient's buttocks.
"Wrapping the towel around the hands prevent contaminating the gloves. The towel provides a sterile field immediately below the working area."
23. Put the fenestrated towel on perineum exposing the urethra only.
24. Place the thumb and forefinger between the labia minora, spread, and then pull upward to expose the meatus. The hands separating the labia is now considered contaminated.
"Stretching the tissues irons out the area and makes the meatus visible for easy insertion of the catheter, touching the labia contaminates the gloved hand with organisms from the patient"

25. Maintain separation of the labia with one hand until urine is flowing well and continuously.
"Allowing the labia to drop back into position may contaminate the area around the meatus as well as the catheter."
26. Cleanse the exposed area at the meatus thoroughly using the solution of the agency's choice, move the cotton ball held in a forceps from above the meatus down toward the rectum.
"Moving from an area where there is likely to be less contamination to an area where there is more helps prevent the spread of organisms. Thorough cleansing helps reduce the possibility of introducing organism into the bladder.
If a forceps is not to be used, pick up a cotton ball with other hand to cleanse the area. While cleansing be careful not to touch anything with the gloved hand, except the cotton balls. After moistening cotton ball in cleansing solution, cleanse from above the meatus downward with one stroke and drop cotton ball in waste container.
"This gloved hand will be used to handle the catheter and must touch only sterile articles during procedure." or a clean set of gloves could be used to cleanse the area, then a sterile set of gloves is don afterward.

27. Take another cotton ball, moistened in solution and repeat the one downward stroke, then discard cotton ball. Use as many cotton balls as necessary to cleanse the meatus area. Discard the forceps (if used).
28. With the uncontaminated gloved hand, pick up the catheter three inches away from tip and insert into the meatus very gently and slowly 2-3 inches (5-7.5 cm) or until urine starts to flow. Have basin in position.
"The female urethra is about 1.5-2.5 inches (4-6.5 cm) long"
29. Do not use forceps to push the catheter through the urethra into the bladder.
"Apply force on the catheter is likely to injure mucous membranes."
30. Ask the patient to breathe in deeply and exhale slowly and rotate the catheter gently. If slight resistance is met as the catheter reaches the external sphincter.
"The sphincter voluntarily relaxes and the catheter then enters the bladder easily when the patient by deep inspiration and slow exhalation relaxes."
31. Hold the catheter securely while the bladder empties, in the receptacle directly, avoid pushing and pulling the catheter in and out as the bladder drains. Place the end of the catheter into container, if a specimen is required, getting a mid stream specimen is possible now.

"Withdrawing and reinserting the catheter increases chances of contaminating the catheter."

32. When the flow of urine begins to decrease, withdraw the catheter slowly about 1 cm at a time until urine barely drips and then withdraw the catheter.
- "The tip of the catheter passes through urine remaining in the bladder as the catheter is slowly withdrawn."
- * With the retention - type catheter
1. Instill the paper amount of sterile water or solution specified on the catheter (5ml is common plus extra 5ml to permit filling of lumen leading to the balloon) with the asepto syringe.
 2. Attach the open end of the catheter to the appropriate drainage system.
 3. Tape the tubing to the thigh with some ease between meatus and tape to prevent pulling.
 4. Secure the drain tubing to the bed sheet in such away that the force of gravity causes the urine to flow downward into the urine bag.
 5. Place the urine bag securely to bed side bar.
- "The tip end of catheter passes through urine remaining in the bladder as the catheter is slowly withdrawn."

**** To remove the Foley catheter**

1. Empty the balloon first when removing an indwelling catheter. This is done by cutting the catheter where it serves the balloon or by withdrawing the fluid with a 10 ml syringe.
2. Slowly and gently remove the catheter.
3. Clean the area around the meatus thoroughly
33. Dry area. Place specimen where it will be safe from spilling. Remove tray and all equipment from bed at once.
"Removing equipment from bed immediately allows patient to relax and change position. Leave her clean, dry and comfortable."
34. Remove all equipment from unit.
35. Send the urine specimen to the laboratory promptly or refrigerate it.
"Urine kept at room temperature may cause organisms, if presents, to grow and distort laboratory findings."
36. Clean at once any article which is not disposable. Return to central service or proper storage. Wash your hands.
"If catheter or gloves are reusable, lubricant and other substances are easier to remove immediately after use. Prompt care gives the article longer life."
37. Observe the following:
 - a. Note color, appearance and amount of urine removed.
 - b. Observe for unusual discomfort of patient while inserting or removing the catheter.
 - c. Observe for efficient drainage system.

1. Tubing is free of kinks, twists and pressure from resting body parts.
2. Tubing is below the bladder level to facilitate gravitational flow.
3. End of tubing is above the urine receptacle level.
- d. Note signs of inflammation or accumulation of discharges in perineal area.
- e. Observe amount of urine output in relation to fluid intake to evaluate adequate kidney function.

Points to keep in mind :

1. This procedure is never done without the written order of the physician
2. Because there is risk of infection trauma (injury to tissue) and shock, catheterization is avoided whenever possible.
3. Sterile equipment and sterile techniques used when introducing the catheter. If available the prepackaged tray is preferable since it eliminates the necessity of opening the sterile tray and pouring cleaning solution.
4. Instruction and much practice in the sterile techniques are necessary before carrying out the catheterization procedure.
5. Decompression of an overly distended bladder may cause shock or hemorrhage from rupture of vessels due to rapid change in intravesical pressure. It is suggested that no more than 1000 to 1500 ml of urine be taken at one time. In the postpartum patient however the bladder should be completely emptied before removing the catheter.

**Catheterization
of Urinary Bladder (Male)**

Definition :

The procedure of insertion of a catheter (a tube) through the urethra into the urinary bladder.

Types are :

1. Non retention : Plain or straight catheter for temporary intubation.
2. Retention : Foley catheter, for prolonged intubation and continuous free drainage.

Purposes :

1. To empty the bladder in case of temporary retention of urine after all nursing measures have failed to help patient void.
2. To control urine flow in case of incontinent patient as part of bladder retraining program by emptying the bladder at regular intervals.
3. To keep skin dry and prevent irritation in case of incontinence.
4. To obtain a sterile urine specimen for culture and sensitivity.
5. To irrigate the bladder.
6. To instill medications.
7. To determine the amount of residual urine.
8. To prevent strain on pelvis or abdominal wounds from distended bladder.
9. To relieve distention of bladder before going to operation such as pelvic operation and delivery.

10. To prevent irritation of pelvic (perineal) incision.

~ use original set for catheter

Equipment :

- A. Sterile (if available - sterile disposable set is preferable)
 - 1. Grey. If present, use it.
 - 2. Gloves (two pairs in case one is contaminated).
 - 3. Lubricant (water soluble).
 - 4. Towel.
 - 5. Cleansing solution } soft gauze
 - 6. Cotton balls } in container
 - 7. Forceps (one pair).
 - 8. Appropriate catheter for :
 - a. Children : No.8 or 10 Fr
 - b. Female : No.14 or 16 Fr
 - c. Male : No.20 or 22 Fr
 - 9. Specimen container (if necessary) with label.
 - 10. Asepto syringe (10-30 cc) or as stated on catheter.
 - 11. Normal saline or distilled water.
 - 12. Stereotized towel.
- B. Non Sterile
 - 1. Drape sheet (bath blanket).
 - 2. Water proof sheet (protective sheet).
 - 3. Urine receptacle - or appropriate drainage system for retention types.
 - 4. Artificial light (Gooseneck lamp).
 - 5. Waste container or paper bag.
 - 6. Adhesive tape

7. Clamp.
8. Container holder (urine bag holder).

Procedure:

1. Wash hands thoroughly.
2. Assemble all equipment in utility room.
3. Add cleansing solution(s) to sterile tray, if not prepackaged. Also place a small amount of sterile lubricant on sterile gauze square, if not included.
4. Explain the procedure to the patient (or his parents if a child) to elicit as much cooperation as possible.
5. Provide for absolute privacy. Place screen properly since this procedure can be embarrassing to the patient adequate screening and draping are necessary. A sign on the door will help ensure that there are no interruptions.
6. If the catheterization is to determine the amount of residual urine, the patient should void prior to catheter insertion.
7. If the purpose is to obtain a sterile specimen the patient should not have voided for 30 minutes prior to the procedure.
8. Bring all equipment to the patient's unit.
9. Have patient on a firm mattress or on a treatment table.
"The meatus is difficult to see when the patient sinks into a mattress and the bladder may fall lower than the meatus making drainage from the bladder difficult."

10. Provide for good light. An artificial light is recommended.
" Good light is necessary to see the meatus clearly".
11. Positioning the Male patient
 1. Position the male patient on his back.
It is usually easier when the legs are ~~are~~ together.
 2. Drape the patient so that only the area around the penis is exposed.
 - a. Fanfold top covers to patient's knees.
 - b. Cover chest with extra sheet if needed.
" Good visualization of the meatus is important. Embarrassment, chillness and tension can interfere with introducing the catheter. Comfort of the patient will promote relaxation".
" Explain to patient that any change in his position might contaminate the sterile equipment."
 12. If the patient is soiled, wash the area around the meatus well with soap or detergent and water, rinse and dry.
" Having the area as clean as possible decreases the chance of introducing organisms into the bladder".
 13. Place small protective sheet over male patient's thighs under the penis.
 14. Place nonsterile curved basin on protective sheet. Move over bed table down to convenient place for working and place tray on it.

15. Open the tray (set).
16. Take out the catheter of it's pack by using the sterile forceps or as convenient.
17. Pour the cleansing solution on cotton balls in the sterile container (if the set is disposable).
18. Don or put on sterile gloves.
19. Arrange the equipment so that articles for cleansing are on near side, in order that you will not have to reach over other articles and provide convenience in working.
" Reaching across sterile items increases the risk of contaminating them when sterile gloves are worn. In this case there is also danger of area being contaminated by becoming wet ".
20. Generously lubricate the catheter for about 3.5-5 cm. being careful not to plug the eyes of the catheter. Individual packets of lubricants are recommended.
" Lubricant reduces friction between the catheter and the urethral tract minimizing mechanical injury to tissue which predisposes to urinary tract infection and inflammatory process, and makes inserting the catheter easier plugging the catheter prevents drainage of urine. Multiple use tubes of lubricant are likely to become contaminated".
21. Wrap the edges of a sterile towel around gloved hands while placing the towel under the penis over the protective sheet.
22. Insert penis in the hole of a fenestrated towel (if available).

23. Lift the penis with one hand which is then considered contaminated cleanse the area at the meatus well with cotton balls moistened in the solution. Move the cotton balls held with a forceps in a circular motion, moving from the meatus toward the base of the penis. For a thorough cleansing retract the foreskin in the uncircumcised male.
"The hand touching the penis becomes contaminated with organisms of the patient. Cleaning the area around the meatus and under the foreskin in uncircumcised male helps prevent infection. Moving from the meatus toward the base of the penis prevents bringing organisms to the meatus".
24. Pull the penis with gentle traction straight up with the fingers on the sides of the penis Slightly pinch the end of the penis and insert the catheter for 15-20 cm. (6-8 ") or by the use of forceps with end of catheter left on the sterile towel put under penis.
" Holding the penis up with slight traction helps straighten the urethra. Opening the meatus makes it easier to insert the catheter. The male urethra is about 14-16.5 cm (5.5-6.5") long.
25. In case of males also, try exerting a bit more traction to straighten the urethra or drop the penis a bit toward the toes.
" Forcing a catheter may injure mucous membrane . Dropping penis when the catheter is near the prostate gland helps the catheter by pass the gland ".

26. Do not use forceps to push the catheter through the urethra into the bladder.
" Applying force on the catheter is likely to injure mucous membranes".
27. Ask the patient to breathe in deeply and exhale slowly and rotate the catheter gently. If slight resistance is met as the catheter reaches the external sphincter.
" The sphincter voluntary relaxes and the catheter then enters the bladder easily when the patient by deep inspiration and slow exhalation relaxes. "
28. Hold the catheter securely while the bladder empties in the receptacle directly, avoid pushing and pulling the catheter in and out as the bladder drains. Place the end of the catheter into container, if a specimen is required, getting a mid stream specimen is possible now.
" Withdrawing and reinserting the catheter increases chances of contaminating the catheter " .
29. When the flow of urine begins to decrease, withdraw the catheter slowly about 1 cm at a time until urine barely drips and then withdraw the catheter."
" The tip of the catheter passes through urine remaining in the bladder as the catheter is slowly withdrawn "
*** With the retention - type catheter.**
 1. Instill the proper amount of sterile water or solution specified on the catheter (5ml is common plus extra 5 ml to permit filling of lumen leading to the balloon) with the asepto syringe.

2. Attach the open end of the catheter to the appropriate drainage system.
3. Tape the tubing to the thigh with some ease between meatus and tape to prevent pulling.
4. Secure the drain tubing to the bed sheet in such away that the force of gravity causes the urine to flow downward into the urine bag.
5. Place the urine bag securely to bedside bar.

29. To remove the Foley catheter:

1. Empty the balloon first when removing an indwelling catheter. This is done by cutting the catheter, it serves the balloon or by withdrawing the fluid with 10ml syringe.
2. Slowly and gently remove the catheter.
3. Clean the area around the meatus thoroughly.
30. Dry area. Place specimen where it will be safe from spilling. Remove tray and all equipment from bed at once.
" Removing equipment from bed immediately allows patient to relax and change position. Leave him clean, dry and comfortable ".
31. Reduce the foreskin of the uncircumcised male following catheterization.
32. Remove all equipment from unit.

33. Send the urine specimen to the laboratory promptly or refrigerate it.
"Urine kept at room temperature may cause organisms if present, to grow and distort laboratory findings"
34. Cleanse at once any article which is not disposable. Return to central service or proper storage, Wash your hands.
"If catheter or gloves are reusable, lubricant and other substances are easier to remove immediately after use. Prompt care gives the article longer life".
35. Observe the following :
 - a. Note color, appearance and amount of urine removed.
 - b. Observe for unusual discomfort of patient while inserting or removing the catheter.
 - c. Observe for efficient drainage system.
 1. Tubing is free of kinks, twists and pressure from resting body parts.
 2. Tubing is below the bladder level to facilitate gravitational flow.
 3. End of tubing is above the urine receptacle level.
 - d. Note signs of inflammation or accumulation of discharges in perineal area.
 - e. Observe amount of urine output in relation to fluid intake to evaluate adequate function.

Gastric Intubation

Definition :

The introduction of a tube into the stomach for therapeutic or diagnostic purposes.

A. Gastric gavage (feeding) :

A method of artificial feeding by means of gastric intubation.

Purpose :

To provide food or fluid to those who are unable to take nourishment by mouth because of :

1. Unconsciousness.
2. Cleft palate.
3. Fracture of the jaw.
4. Delirium.
5. Psychosis.
6. Persistant nausea and vomiting.
7. Operation on the mouth.
8. Patient has an obstruction such as stricture in the esophagus or throat.
9. Persons with brain dysfunction sometimes lose their ability to swallow.
10. Severely burned patient.
11. Patients who are too weak to take nourishment by mouth such as premature infant.

Equipment :

1. Gastric tube as ordered length depending on age.
2. Basin with ice if rubber tube is ordered.

3. Water soluble lubricant.
4. Pitcher with liquid feeding 500cc/105 F°
5. Medicine glass of water.
6. Paper tissue.
7. Paper bag for wastes.
8. Towel.
9. Clamp.
10. Syringe or funnel.
11. Adhesive tape and scissors.
12. Stethoscope.

Preparation of equipment :

1. Assemble equipment.
2. The rubber tube should be placed in ice for 15 min. before insertion, cold causes rubber to be more rigid and more easily directed during insertion.
3. Have feeding warmed to body temperature prior to administration to decrease excessive peristalsis.

Preparation of patient :

1. Before insertion begins, the patient may be shown the tube as well as pitcher and diagram that will help him understand it's function.
2. Explanation to the patient or the parent of a child will lessen anxiety and enhance co-operation.
3. Place patient in a comfortable sitting position or Recumbent position.

How to check that the tube is in the stomach ?

1. Attach a syringe to the end of the tube and aspirate for stomach contents.

When the tube is in the stomach, contents will return, this is generally considered the most accurate method for determining that the tube is in the stomach.

2. Place the end of the tube in a container of water, if air bubbles appears, withdraw tube.
3. Listening with a stethoscope placed over the patient's stomach, the nurse should hear air entering the stomach as she injects air with the syringe.

Procedure :

- a. Aseptic technique should be employed, owing to the sensitivity of the tissue involved, all measures to prevent injury and infection should be utilized.
- b. Instruct patient to swallow as the tube is pushed to enter more easily and the cough reflex is decreased as the tube passes.
- c. Towel may be placed over the patient chest and emesis basin kept nearly, incase passage of the tube stimulates vomiting.
- d. Lubricate or moisten tip of tube to the distance of about 10cm to facilitate the passing of tube.
- e. Pass the tube gently and firmly as the patient swallows. Depth to which the tube should be passed is measured from the bridge of the nose to ear lobe then nose to the lower tip of the sternum.

4. Pour slowly into the syringe barrel, keeping it half full at all time. Distention, nausea and excessive peristalsis may be prevented by slow way.
5. Oral hygiene and lubrication of the lips of patient is needed after meal to prevent dryness of mouth.

Recording :

1. Time, date and kind of treatment,
2. Any observation, untoward reaction.
3. Any over or under amount of fluid instilled should be recorded in the chart of intake and output.
4. Type of feeding given and amount taken.
5. Signature.

B. Gastric lavage (Irrigation):

Definition :

The administration and siphoning back of a solution through a catheter passed into the stomach.

Purpose :

1. To remove unabsorbed poison after ingestion of poison.
2. To diagnose gastric hemorrhage and for the arrest of hemorrhage.
3. To cleanse the stomach.
4. To remove liquid or small particles of material from the stomach.

- f. Checking the tube by 3 ways.
- g. Secure the tube in position with adhesive tape.
- h. The patient should be placed in as near position for eating as possible for him, the head should be raised if not contraindicated.
- i. Attach the funnel or barrel of syringe to the end of the tube.
- j. Pour feed slowly in the funnel or syringe barrel, keeping it half full at all time to prevent excess air entering the stomach.
- k. To maintain patency the tube should be flushed with 30ml of water after the feeding is finished.
- l. Clamp the tube after meal to prevent air entering the stomach.
- m. Leave the patient in a comfortable position.

Points to remember :

1. Danger of passing a tube are :
 - a. Mechanical injury to the tract.
 - b. Strangulation
 - c. Lung infection : from allowing the tube or some part of feeding to enter respiratory tract.
2. Make sure when lubricating the tube that the eye doesn't block, this may drop into the larynx.
3. Avoid excess air from entering the stomach by clamping the tube after feeding is finished.

Equipment :

- (see) ch*
1. Stomach tube (large lumen)
 2. Large plastic funnel before adapter.
 3. Large plastic funnel with adapter to fit stomach tube.
 4. Water soluble lubricant.
 5. Tap water or appropriate antidote saline solution, sodium bicarbonate solution.
 6. Bucket for aspiration.
 7. Mouth gag, nasotracheal or endotracheal tube with inflatable cuffs.
 8. Container for specimens.

Procedure :

1. Remove dental appliances and inspect oral cavity for loose teeth.
2. Measure the distance between bridge of the nose and the xiphoid process, mark with indelible pencil or tape.
3. Lubricate the tube with water soluble lubricant.
4. If the patient is comatose, he is intubated with a cuffed nasotracheal or endotracheal tube.
5. Place the patient in left lateral position with the head, neck and trunk forming a straight line, after the lavage tube is passed, the head of the table is lowered, have the stand available by the suction.
6. Pass the tube via the oral or nasal route while keeping the head in a natural position pass the tube to the adhesive marking or about 50 cm.

7. Submerge free end of tube below water level at the moment of patient exhalation.
8. Aspirate the stomach contents with syringe attached to the tube before instilling water or antidote. Save the specimen for analysis.
9. Remove syringe, attach funnel to the stomach tube or use 50ml syringe to put lavage solution in gastric tube.
(Volume of fluid placed in the stomach should be small).
10. Elevate funnel above the patient head and pour approximately 120-300ml of solution into the funnel.
11. Lower the funnel and siphon the gastric content into the bucket.
12. Save sample of first 2 washings.
13. Repeat lavage procedure until the returns are relatively clear..
14. At the completion of lavage :
 - a. Stomach may be left empty.
 - b. Antidote may be instilled in tube and allowed to remain in stomach.
 - c. Cathartic may be put down in tube.
(Cathartic may be given if the poison has no corrosive action on the bowel, it will help remove unabsorbed material from the intestine.
15. Pinch off the tube during removal or maintain suction while tube is being withdrawn to prevent any liquid return to trachea.

Points to Remember :

1. If there is any obstruction to the passage of the tube, if gastric pain is caused by

the introduction of the fluid or if there is any sign of blood in the siphoned liquid discontinue the treatment and report condition to the head nurse or doctor.

2. In emergency situations of poisoning, the stomach is lavaged until return flow is clear this requires several liters of solution.
3. Contraindications to gastric lavage :
 - a. Ulceration with haemorrhage.
 - b. Uncompensated cardiac disease
 - c. Tuberculosis
 - d. Epilepsy
4. Stomach tube should be firm but not rigid.
Do not put plastic tubes in ice.
5. Check that the tube is in stomach or not.
6. Examine drainage from tube as to color, type and appearance.
7. Don't induce vomiting if patient is in a coma, unconscious or is having convulsions.

Recording :

1. Date and time of treatment.
2. Treatment performed.
3. Amount and color and consistency of return.
4. Patient's reaction to treatment.
5. Amount and kind of solution used.
6. Name of nurse or doctor that performed the treatment with signature.

Removal of tube :

1. Pinch tube tightly so that any liquid left in the tube will not drop back into trachea.
2. It is withdrawn quickly but gently to prevent gagging reflex.
3. Towel is wrapped around it as it is withdrawn.
4. Give patient mouth care.

INHALATION

Definition :

Is the process of breathing of air vapour steam or drugs or oxygen into the lungs.

Purpose :

1. To supply or increase the supply of oxygen to the body.
2. To soothe irritated mucus membranes in the respiratory tract.
3. Loosen mucus and secretions in the respiratory tract.
4. To serve as respiratory stimulant.
5. Provide high humidity to liquify bronchial secretions.
6. To improve general elastic tone and respiratory breathing habits.

Indications for use :

1. Respiratory insufficiency.
2. Asthma.
3. Atelectasis (partial collapse of the air vesicles of the lungs).
4. Bronchiectasis (Dilatation of the bronchi or bronchial tubes, associated with formation of fibrous tissue or cavities of the body).

Oxygen Administration

Equipment needed :

1. Oxygen supply-tank or wall outlet.
2. Oxygen mask, or tent or nasal catheter.

General directions :

1. Provide for and maintain all precautions:
 - a. Instruct patient and others about safety regulation.
 - b. Allow no open flame or smoking, remove all matches, cigarettes, lighters, candles, etc. from the unit.
 - c. Allow no electrical devices or apparatus.
 - d. Post warning signs where directed and need is evidenced (OXYGEN, NO SMOKING, etc.).
 - e. Use no oil, alcohol or lotion with ether, wash hands thoroughly if such has been used before coming to unit.
 - f. Use no wool, silk, nylon or similar fibers in bedding or clothing fabrics.
2. Assist as needed, the physician or professional nurse or the person specifically designated by hospital policy to handle and operate oxygen equipment.

Nasal Catheter :

1. Provide the following :
 - a. Nasal catheter, size 8 to 14 French, with several openings at end.
 - b. Rubber tubing with glass connector, about 5 feet.

- c. Lubricant (water or water-soluble) and glass of water.
- d. Adhesive tape.
- e. Humidifier filled with distilled water to indicated water level, use tap water only. Fill bottle only one-half full if there is no water level mark.
2. Assist the physician or professional nurse to:
 - a. Attach humidifier to the regulator.
 - b. Attach the nasal catheter to the tubing on the water container.
 - c. Lubricate catheter.
 - d. Start flow of oxygen
 - e. Insert the catheter
 - f. Regulate liter flow of oxygen
 - g. Fasten the catheter in place with adhesive tape.
3. Fasten oxygen tube to bedding with a large safety pin; permit enough slack for patient to move easily.
4. Assist the physician or professional nurse to change the catheter usually every 8 to 12 hours using alternate nostrils.
5. Cleanse secretions and crusts from nares by applying lubricant.
6. Check oxygen liter flow specified by the physician.
7. Check water level in the humidifier; keep filled to the water level mark.
 - a. Turn off the oxygen when water is to be added.
 - b. Unscrew the jar and add water quickly
 - c. Replace jar and start oxygen.

8. Check oxygen supply in tank, if supply of oxygen is the tank; report before becoming empty.
9. Report observation to nurse in charge.

Oxygen Mask (Face):

1. Wash, dry and powder face lightly before mask is applied.
2. Connect oxygen tubing to mask tubing.
3. Start flow of oxygen.
4. Apply mask according to type (over nose, or nose and mouth); fit mask to face carefully and snugly; fasten straps.
5. Readjust and regulate flow of oxygen to the number of liters ordered by the physician.
6. Remove mask about every 2 hours to wash, dry and powder face lightly; sponge and dry the interior part of the mask; provide necessary mouth care while mask is removed.
7. Check oxygen liters flow.
8. Check oxygen supply in tank, if tank is being used, report before empty.
9. Check apparatus for leaks frequently
10. Report observations to nurse in charge.

Oxygen Tent: Do

1. Cover mattress with plastic or rubber sheet or enclose in cover.
2. Place patient and bed into desired position.
3. Use cotton blankets to cover patient, drape one about head and neck and shoulders if necessary

4. Move unit into position near bed before opening canopy.
5. Unfold and place canopy over upper part of bed over the patient's head and chest or the entire bed if intended.
6. Connect oxygen supply and flush the tent.
7. Seal the edges of the canopy :
 - a. Close all zippers and sleeves
 - b. Tuck top and side edges well under mattress at the head and sides of bed; place front edge in a folded sheet and tuck sheet under mattress at the sides, allow canopy and top cover to mold loosely over patient's body.
 - c. Tuck all edges under sides and ends of mattress if canopy fits over entire mattress.
8. Adjust oxygen liters flow to that ordered by the physician.
9. Provide hand bell for patient to call.
10. Take temperature of patient rectally.
11. Put arm through sleeve in the canopy for to provide nursing care for pts. limited movement. such as: giving fluids, washing face and hands giving medications.
12. Slide skirt of canopy up to patient's neck and tuck under pillow at the head of the bed to carry out nursing care requiring more time and more movement of the patient.
13. Remove canopy if patient is permitted out of the tent for a period of time.

- a. Loosen canopy and fold over head of bed or frame.
- b. Turn off oxygen.
- c. Replace canopy; open liter regulator valve to flush tent, then adjust liter flow to amount ordered, seal canopy.
14. Check thermostat to regulate temperature within tent at about 70°F or temperature most comfortable for patient.
15. Check air circulation; keep about half-way between low and high.
16. Check oxygen liter flow, report to nurse incharge if there is variation from that specified by the physician.
17. Check drip pan under cabinet if there is one and empty according to directions.

Warm Steam Inhalation :

1. Explain procedure to the patient.
2. Close windows and doors in patient's room.
3. Put patient into a sitting position.
4. Pour measured medication (if to be used).
5. Pour boiled water into the basin.
6. Cover patient with a blanket or sheet after instructing him to inhale steam.
7. After finishing the procedure, keep patient warm and in a comfortable position.
8. Carry equipment to the utility room and clean, dry it and put it in its place.

TREATMENT OF THE EAR

Treatment of the Ear:

Treatment of the ear that a nurse performs include irrigation and the application of drugs in the form of liquid or ointment.

Definition of ear irrigation:

Is the flushing of the external ear canal with a stream of solution.

Purposes:

1. To cleanse the external ear canal.
2. To soften impacted wax.
3. To dislodge any foreign body or to supply heat.
4. To remove purulent discharges.
5. To reduce inflammation and congestion.

Equipment:

1. A syringe or a rubber bulb.
2. A large kidney basin.
3. Cotton pledges.
4. A face towel.
5. A plaster protector and a towel to spread over it.
6. The solution prescribed.
7. A waste receptacle.
8. Otoscope (is an instrument used for looking into the ear canal).

9. Solutions for ear irrigation include:
 - a. Boric acid 2-4% or salt
 - b. Normal saline is usually prescribed for cleansing.
 - c. Sodium bicarbonate 8% or (1 teaspoon to 500 ml).
 - d. Hydrogen peroxide (is sometimes ordered to soften impacted wax and to aid in its removal).
10. Solution temp. should be near body temp. (37°C) and amount of solution (500-1000cc)

Preparation of patient :

1. Explain to patient what are you going to do for him.
2. Put patient in sitting position on a chair or in recumbent position in bed, he should have under his head only one pillow or none at all, he should lie at the near side of the bed, spread the plastic protector with a towel over it, beneath his head.
3. Tilt his head to expose the ear to be irrigated.
4. Place the towel over the patient's shoulders.

Procedure :

1. Before starting the irrigation, cleanse the ear with a compress in order to free it of any accumulated discharges.

2. Put the basin directly under his ear and close to the neck. The patient may be able to hold it in place.
3. Gently pull the auricle upward and backward in order to straighten the auditory canal and hold the auricle in this way while introducing the fluid.
4. Continue the irrigation in this manner until the ear is thoroughly cleansed.
5. Remove the basin. Dry with a compress the canal and auricle.
6. Then have the patient lie on the side of the irrigated ear to let the drainage be as complete as possible.
7. If medication is to be introduced, apply it at this point.

Charting:

1. Record the time and duration of the treatment, the kind, strength, amount and temp. of the fluid.
2. The character of the return flow, the presence or absence of pain, dizziness, nausea or other incidents, the ear treated, if only one, the condition of the ear before and after the irrigation; the medication introduced

Points to Remember:

1. Avoid too forceful injection of the solution.

IRRIGATION OF THE EAR

2. If both ears are to be irrigated, complete the irrigation of one before starting that of the other. In such a case have a separate syringe and basin for each ear.
3. Good light is essential for accuracy.
4. Tell the patient not to move his head, so that there will be no interference with your movements nor any injury to his ear owing to some sudden motion on his part. If he can not hold his head still, do it for him.
5. Dizziness, a disturbance of the fluids of the semicircular canals, may occur from too high or low temp. of irrigation fluid, if pain or dizziness result from irrigation should be discontinued until further instruction can be obtained.
6. Pressure of flow should be low in order not to damage the ear drum.
7. In order to remove impacted wax, pressure irrigation may be used.
8. The nurse should report any untoward reaction to the doctor.
9. The ear canal is not straight, and because it is not straight, the pinna is lifted upward and backward in order to straighten the external canal to provide for a more efficient irrigation and better drainage of the solution.
10. In a child, the ear canal is best straightened by drawing the earlobe downward and backward.
11. Drops or ointments may be applied few days before irrigation to soften the impacted wax.

Instillation of eardrops:

Drugs, in solution are placed in the auditory canal for their local effect.

They are used to:

1. Soften wax.
2. Relieve pain.
3. Apply local anesthesia.
4. Destroy organisms and dry up persistence discharge from ear.
5. Destroy an insect lodged in the canal which yield discomfort.

Equipment:

A dropper is used to instill the solution.

Procedure:

1. The patient lies on his side with the ear to be treated upper most and remains in this position following instillation to prevent the drops from escaping from the canal.
2. A loose cotton wick is inserted into the canal in order to maintain a continuous application of the solution instilled.
3. A wick is never packed into the ear, because it interferes with outward movement of normal secretions and could create pressure.

Removal of Foreign Bodies from Ear:

1. Syringe the ear with slightly warmed water or saline to remove the object through gravitation.
2. Do not force to extract an object embedded in the ear. The result may be an injury to the drum or to the tissues surrounding the object, or the object may be pushed even deeper into the ear.

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3. Unskilled manipulations may produce a swelling that makes removal extremely difficult.
4. Alcohol is used to remove foreign body such as beans or peas which a child sometimes put into this ear.
5. Oil (may be used for other types of foreign bodies it makes the foreign material slippery, permitting easy expulsion).
6. If it is active insects, it should be killed immediately to reduce the danger of further injury from bites or from damage caused by insect, a few drops of oil or alcohol instilled into the ear will kill the insect which can then be washed from the canal by irrigation.

Treatment of the Nose and Throat:

Treatments of the nose may be similar to treatments of the throat. Nose irrigations are ordered and so are throat irrigations, drugs are sprayed into the nose and throat. Liquid drugs are ordered for the nose gargles and painting are ordered for the throat.

Nose Irrigation:

Is the flushing of a part by stream of liquid. It may be called a nasal douche and a throat irrigation may be called a pharyngeal douche.

Purposes:

The purposes of Nose and throat irrigations are:

1. To soften and remove discharges.
2. To relieve pain and swelling.

3. To apply heat.
4. To remove purulent discharge and dry secretion and crust.

Equipment:

The same equipment is needed for irrigation of both the nose and throat.

1. Disposable equipment consists of plastic bag and plastic irrigating tip.
2. Large basin for the return flow.
3. Protector for bed and patient. (a rubber apron with a towel for the lap).
4. Automizer is used for spraying drugs into the nose and throat.
5. Medicine dropper.
6. Nasal speculum to examine the nose.
7. Tongue depressor to examine the throat.
8. Solutions used for nose and throat irrigations are made from mild nonirritating drugs.
 - a. Sodium chloride
 - b. Sodium bicarbonate
 - c. Boric acid
 - d. Normal saline

The same solutions used for gargles, syrup solutions are used as gargles since they stick in the throat.

Procedure of Throat Irrigation:

1. Explain to patient what are you going to do for him.
2. Arrange the irrigating can containing the solution on a pole at the bed side, so that the base is only slightly above the level of the patient's mouth.

3. Place the patient in a sitting position with his head tilted directly over a basin placed in front of him.
4. Instruct the patient to hold his breath while the solution is flowing.
5. Insert the nozzle into the mouth, being careful not to touch the base of the tongue or the uvula. Direct the flow so that all parts of the throat are irrigated.
6. Clamp the tubing to interrupt the irrigation at regular intervals to permit patient to breathe and rest.

Nasal Irrigation:

- The same as in throat irrigation.
- Patient should be instructed to breathe through his mouth during the entire procedure.
- Following the procedure, the patient should be instructed not to blow his nose for a short while, as to do so may force discharges into surrounding areas.
- Patient should not be permitted to go out into cold air for an hour.
(Reason)
The heat from the solution and increased blood supply in the mucous membrane of the nose make the patient more susceptible to the common cold. For a temporary period of time.
- If nasal irrigation follows a recent surgical procedure or the nose, the treatment will need to be given with sterile equipment and under aseptic conditions.

Removal of Foreign Bodies from the Nose:

Foreign bodies such as beans, buttons, peas and pebbles that small children often put into their nostrils can be removed by assisting the child to blow his nose.

Animate objects, such as insects or worms, that have gained access to the nasal cavity, can usually be removed by a nasal douche. Inflammation and infection are present, the condition should be treated by a doctor. If a hard foreign body provide light, pressure above the foreign body and pick it up with special instrument.

Instillations of Nose Drops:

Medications instilled into the nares are used primarily for the relief of nasal congestion.

1. Paper wipes should be provided for the patient.
2. Put patient in a sitting position with his head tilted back, or he lies in bed with his head tilted back.
3. Sufficient solution for both nares is drawn into a dropper.
4. The dropper is placed just inside the nares, approximately one third inch and number of drops prescribed is instilled.
5. Instruct patient to keep his head tilted back for several minutes to prevent the escape of solution from the anterior nares.

6. When instilling drops into the nares of an infant or an irrational patient, the tip of the dropper should be protected with a piece of soft rubber tubing to minimize the danger of injuring the nasal mucous membrane.

Nasal Spray:

Solutions that are instilled by drops also may be applied to the nasal mucous membrane by using a spray of small atomizer generally is used.

The end of the nose is held up, and the tip of the nozzle is placed just inside the nares, and directed backward. Sufficient force is used to bring the spray into contact with the membrane.

Too much force may drive the solution and the contamination into the sinuses and the Eustachian tubes.

Epistaxis :

It is a nose bleed, caused by a sudden blow or injury, the presence of adenoid or other small growths or by spontaneous rupture of a blood vessel in condition of hypertension.

The Treatment :

Depends on severity of hemorrhage.

For Minor Bleeding:

Ice compresses over the bridge of the nose or pressure extend on the affected side may suffice to stop the bleeding.

For Extensive

It may be necessary to pack the nostril with a special pack made of gauze soaked in adrenalin solution.

A hypodermic injection of a coagulant may be indicated for severe hemorrhage.

Points to Remember:

1. Pressure in a throat irrigation may be higher than in nose irrigation.
2. The can should be hung about 24 inches above the outlet in a throat irrigation and 12 inches above the outlet in a nose irrigation.
3. Temp. of solution for a throat irrigation may be about 110°F and temp. of the solution for a nose irrigation may be 105°F.
4. For throat that gag reflex can be stimulated by a forceful stream of water into the throat. Keeping the level of the solution low minimizes pressure. Gravity will cause the solution to flow as long as the irrigating tip is below the base of the fluid.
5. Gravity causes the solution to flow back out into the basin.
6. Breathing while the solution is flowing into and out of the mouth may result in aspirating some of the solution.
7. Gag reflex can be stimulated by touching the uvula or the tongue.

8. Holding the breath interrupts normal physiologic functions of respiration.

ANSWER

QUESTION	ANSWER
What are the normal respiratory rates?	12-20 breaths/min
What is the normal tidal volume?	500 ml
What is the normal minute volume?	12 liters/min
What is the normal oxygen saturation?	98%
What is the normal pH?	7.4
What is the normal carbon dioxide level?	40 mm Hg
What is the normal bicarbonate level?	24 mEq/L
What is the normal oxygen partial pressure?	95 mm Hg
What is the normal carbon dioxide partial pressure?	35 mm Hg
What is the normal oxygen saturation?	98%
What is the normal arterial oxygen content?	19.5 ml/dL
What is the normal venous oxygen content?	13.5 ml/dL
What is the normal oxygen affinity?	2.4 L/dL
What is the normal oxygen capacity?	23.2 L/dL
What is the normal oxygen delivery?	300 mL/min
What is the normal oxygen consumption?	300 mL/min

EYE TREATMENT

Symptoms of Eye Abnormalities:

1. Swollen
 2. Inflamed eye lids or persistent crusting of lid margins.
 3. Pain in the eyes with redness and swelling
 4. Sudden change in vision, such as dimming sight or double vision.
 5. Frequent formation of styes (hordeolum)
 6. Discomfort, vertigo headaches and other signs of eye strain
 7. Undue sensitivity to light.
 8. Necessity of holding reading material very near or quite far from the eyes in order to see clearly.
- The following practices should be observed regardless of the type of treatment.
1. The hands must be washed thoroughly before beginning any procedure in the care of the eyes.
 2. All equipment and solutions used in or about the eye should be sterile.
 3. Individual medicine bottles, droppers tubes of ointment, and equipment should be used for the patient being treated for an eye infection.
 4. A good light is essential when giving eye treatment.
 5. Gentleness should always be used for any procedure involving the eye, such as opening the eyelid.

6. Pressure in opening the eye should be placed on the bony structures surrounding the eye rather than on the eye itself.
7. Eye pads are usually contraindicated in the presence of an eye infection.
8. Droppers, irrigating tips, etc. should not touch the eyelid or the conjunctiva.
9. Medications or irrigation solutions should be directed into the lower conjunctiva not onto the corneal surface.
10. Cleansing strokes or solutions should be directed from the inner toward the outer canthus.
11. If infection is present separate equipment should be used for each eye, solution should not be allowed to run from one eye to the other.
12. If the patient is helpless or unconscious, the cornea should not be allowed to become dry or irritated.

Types of local eye treatment commonly administered by the nurse include:

1. Drugs applied as instillation of drops or ointment.
2. Irrigation
3. Removal of foreign body from eye
4. Compresses, hot and cold
5. Application of eye pads or dressings.

I. a. Eye Instillation

The technique of administering eye drops.

Purposes:

1. To prepare for an examination of the eyes including refraction.
2. To treat a disease of the eye.
3. To produce local anesthesia in preparation for an operation or the removal of sutures.

Equipment:

1. A sterile dropper.
2. The solution prescribed.
3. Gauze compresses.
4. A towel or other protective article.
5. A waste receptacle

General instructions:

1. If the patient is seated on a chair, provide a firm support for his head.
2. Good light is necessary, but do not expose his eyes to a bright glare.
3. Do not let the point of the dropper touch the eye.
4. Use sterile technique.

Procedure:

1. Collect equipment.
2. Explain to the patient.
3. Adjust the patient's position if he is able to have him sit up either on a chair, or in bed. If recumbent, he should have under his head only one pillow or none at all, and should lie at the near side of the bed.
4. Bathe the eye if necessary.

5. Draw into the dropper as much of medication as may be required.
6. With the index of middle finger of your left hand gently pull down the lower lid and tell the patient to look up.
7. Steading your other hand against something so that the movement of the dropper may be controlled in order to prevent the dropper from touching any part of the eye or lid. (If dropper touches the lid, it is contaminated and a fresh sterile one must be used).
8. Allow the correct number of drops of the drug to fall at inner corner.
9. Release the lid and tell him to close his eyes and to move the eye balls up and down in order to diffuse the solution.
10. Wipe away with a compress an excess of tears.
Add: When he has closed his lids, gently press a compress on the inner canthus to prevent the solution from entering the lacrimal duct.

Charting:

Record the time and the kind and amount of the medication, the reaction of the patient and significant observation.

Note:

Different medications may be ordered for each eye:

R.E. means right eye
L.E. means left eye
and O.U. means both eyes

b. Application of Eye Ointments

Ointments are used:

1. To treat infections of the eye.
2. To dilate or contract pupil.
3. To soothe or lubricate as in burn of the conjunctiva.

Equipment:

1. A sterile ointment tube.
2. Gauze compresses.
3. A waste receptacle.

Procedure:

1. Prepare equipment.
2. Explain to the patient.
3. Position same as in introducing drops.
4. Apply ointment directly to the fornix from the ointment tube.
5. Do not allow the tip of the tube to touch any part of the eye, thus becoming contaminated.
6. A ribbon of ointment long enough to cover the length of the fornix, because ointment tube is held slightly away from the eyelid, the ribbon must be twisted off before the lower eyelid is filled (To manage this better use warm ointment).
7. Instruct the patient to close his eye lightly and roll the eye ball in all directions.

III. Eye Irrigations

Irrigation: *Cette* *Sic* *Washing*

Purpose:

1. To remove a purulent secretion.
2. To reduce congestion and inflammation.
3. To expel a foreign body.
4. To apply heat.
5. To cleanse the eye.
6. To check infection.

Equipment:

1. An undine, or syringe
2. An eye dropper
3. Cotton balls
4. A small towel
5. A plastic protector and a towel to spread over it.
6. A waste receptacle

General Instructions:

1. If both eyes are to be irrigated, complete the irrigation of one eye before beginning that of the other in such a case have separate equipment for each eye.
2. Never use force in opening the lids.
3. Do not let the solution fall from a height of more than 2 inches above the eyes.
4. Instruct the patient not to move his head, least a sudden movement should cause the point of the syringe or dropper to injure the cornea.
5. The kind of solution and its amount depend on the purpose of the irrigation and will be prescribed by the physician.

Procedure:

1. Adjust the patient in recumbent position he should have only one pillow, or none at all under his head. Spread the plastic protector, with a towel over it, beneath his head.
2. Tilt his head slightly backward and toward the side of the eye to be treated, this position puts the outer canthus lower than the inner and consequently favors the proper drainage. At the same time, this prevents the fluid from entering the other eye.
3. Wash off any discharge present on the lids with a cotton pledges moistened in the solution.
4. Separate the lids, by applying gentle traction upward with the index finger and downward with thumb of one hand.
5. Keep the lids separated during the flow.
6. With the undine in the other hand bring the tip close to the inner canthus, but without touching the eyeball and direct the stream gently toward the outer canthus.
Put kidney basin on the side of face to receive solution during irrigation.
7. Tell patient to look upward and away from the tip and to move the eye ball up and down.
8. Continue the irrigation in this manner until the eye is thoroughly cleansed.
9. Dry the eye, wiping with the pledges outward from the inner canthus.

Solutions used:

1. Boric acid 2%
2. Normal saline 0.9%
3. Argysol 25%
4. Silver nitrate 1% ← *نیکارڈی نیٹرائیٹ مارڈی کا روپ*

Charting:

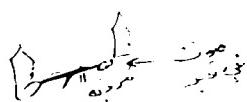
فراہم کردہ
Same as eye instillation.

Note:

The solution used must be at body temperature.

III. "The Removal of Foreign Bodies From the Eye"

1. Evert the lids like this the upper lid
 - a. Ask the patient to look down but to keep both eyes open. (In this way the sensitive cornea is kept away from the surface of the lid as it is being turned).
 - b. Grasp the upper lid by the eyelashes and pull down and out.
 - c. An applicator, cotton covered tooth pick or pencil is placed on the lid at a spot above the tarsal cartilage, which is firm and cannot be bent.
 - d. Press gently backward and downward with the stick and at the same time pull up on the lashes.
2. By other hands after locating the object carefully, pick it out with some soft material or wash it out with warm water using an eye dropper.



3. After the removal, irrigate the eye with warm water.
4. Leave to a physician the removal of any object that has become embedded in the substance of the eye itself.
Lower lid is everted by gently pulling it down.

Note:

Remember that great care must be exercised in removing any foreign body from the eye since there is always the risk of local infection.

VI. "Wet Compresses For Eye"

Equipment:

1. Squares of gauze size 4 x 8cm
2. Tongue blades
3. Basin for solution
4. Mineral oil (or sterile petroleum jelly)
5. Solution according to Dr. Order (Hot or cold).

Procedure:

All of the materials used for hot and cold moist compresses on the eyes must be sterile.

1. A gauze is folded and tied tightly on a wide tongue blade (this dressing called lollipops)
2. The excess moisture is squeezed from the gauze by pressing two lollipops together.
3. The desired temperature is maintained on the eye by alternating the dressing ever 30 to 60 seconds.

4. The handle must be held in the upright position at all times during use, to prevent cross contamination.
5. Before applying moist heat to the eye, a protective layer of sterile petroleum jelly is applied to the lid.

Note:

When compresses are applied to both eyes, separate equipment is used for each eye.

V. "Eye Dressings"

Eye dressings are prepared by placing two layers of cotton batting between two layers of gauze roller bandage.

Then these layers are cut in an oval shape and called eye pads. Then each two pads are put in one packet and sterilized to be used (size $1\frac{1}{4}'' \times 2\frac{1}{2}''$)

When dressing an eye that is deep set, two eye pads should be used on one eye. Eye dressings are held in place with scotch tape.

LUMBAR PUNCTUREDefinition :

Lumbar puncture is the insertion of a needle into the lumbar sub-arachnoid space.

Purpose :

- a. Diagnostic in order to:
1. Obtain a specimen of cerebro-spinal fluid (C.S.F) (The fluid which surrounds the brain and spinal cord).
2. Measure pressure of cerebrospinal fluid. The pressure range is 60 - 180mm of water.
3. Inject dye or air into sub-arachnoid space preparatory to take X-ray of brain and spinal cord.
- b. Therapeutic
1. To inject medication or anesthetic directly into sub arachnoid space.
2. To remove cerebro spinal fluid to relieve undue pressure.

Equipment:

1. Sterile (tray containing)
 1. Syringe 2 - 5ml and needle 22 - 25 gauge (for injecting local anesthesia usually procaine hydrochloride).
 2. Lumbar puncture needle 20 - 22 gauge, 8 - 12cm or 3 - 5 inches long.
 3. Fenestrated drape (opening of drape is placed over area of back where spinal canal will be entered).

4. Test tubes for specimens three or more.
 5. Antiseptics and cotton balls to cleanse site of entry forceps and cups for antiseptic.
 6. Sterile gloves for the operator.
 7. Manometer with three way stop-cock.
 8. Gauze for dressing of site of entry when needle is withdrawn.
 9. Drug and syringe for injecting it, if ordered.
2. Un sterile
1. Adhesive tape
 2. Bandage scissors

Guides for the Nurse:

1. Observe practices of surgical asepsis.
2. The lumbar puncture is usually made at the interspace between the third and fourth or fourth and fifth lumbar vertebrae. This level is below the spinal cord and therefore there is no danger of injury to the cord up on insertion of the needle.
3. Lumbar puncture is done by the doctor with the assistance of the nurse.
4. During a spinal puncture, the patient is observed for sign of shock; nausea and vomiting (Shock can be demonstrated by sudden facial pallor accelerated pulse rate, excessive loss of consciousness). This can occur as a result of the lowering of the spinal fluid pressure or up on the administration of drug into spinal canal.

5. Patient should have correct positioning, maximum separation of the third and fourth lumbar vertebrae will facilitate needle insertion.
6. Patients are often anxious about a lumbar puncture, the nurse can reassure her that there is usually very little discomfort.

Procedure:

1. The nurse washes hands, and prepare the equipment needed for lumbar puncture.
2. The nurse explains to the patient what are they going to do, and explains what the patient can expect and what he can do to facilitate the procedure.
3. Adjust the position of the patient:
 - a. Patient lies on his side with knees drawn up to the abdomen and the chin displaced downward into chest. The nurse may help if the patient is an infant, young child or an unconscious or irrational adult, by placing one arm on the back of his neck and other behind his knees.
 - b. The patient may sit on the side of the bed and lean forward on the table or the nurse. This position is often used for the administration of spinal anesthesia. Spinal pressure reading is inaccurate when the patient is in a sitting position.

4. When the position has been adjusted, cleanse and disinfect the area at this point (the normal micro organisms present on the skin may become pathogenics when introduced into body) then carefully drape, to provide a sterile field. The local anesthetic is administered and allowed to take effect.
5. After the physician inserts the spinal needle into the subarachnoid space, the manometer is attached and the fluid is allowed to flow freely into it until it stops. The level at which the fluid stops indicates the spinal pressure.
6. The stopcock is turned and the fluid allowed to run or drip into the specimens' tubes naturally for subsequent laboratory study. Collect the first drippings. (These are tinged with the blood from the pierced tissues). When the fluid becomes clear use a second tube to collect it, sometimes a third tube is required.
7. After the specimens have been gathered, the needle removed and direct pressure is applied for a short time (wipe the area with disinfectant and put on dressing).
8. Place the patient flat in bed after procedure. This helps prevent headache. He should remain flat for 12 - 24 hours. (Removal of the spinal fluid causes a decrease of blood pressure and a circulatory disturbance until the supply of fluid again becomes normal.)

9. When spinal anesthesia is administered, the patient placed flat on the table, and the head of the table is lowered.
10.
 - a. Record the time and duration of the treatment.
 - b. The side of insertion.
 - c. The name of the physician or anesthetist
 - d. The position of the patient, sitting or lying.
 - e. Amount and character of the fluid withdrawn.
 - f. Whether a specimen was sent to the laboratory or not.
 - g. The medication given, and the reaction of the patient during and after the treatment.

ABDOMINAL PARACENTESIS

Abdominal paracentesis: Is aspiration of fluid from the peritoneal cavity.

Objectives:

1. To reduce pressure on vital organs.
2. To aid physician in diagnosis.

Terminology:

1. Peritoneal cavity a potential space between the visceral peritoneum and the abdominal wall peritoneum parietal.
2. Ascites: Accumulation of serous fluid in the peritoneal cavity.
3. Syncope: Fainting; a transient loss of consciousness.

Equipment:

Sterile equipment:

1. Paracentesis tray (which contains needles, knife handle, blades trocar and cannula, rubber tubing syringe and basins)
2. One pair of gloves.
3. Small syringe with 22 - 25 gauge needle for anesthetic.
4. Suturing material (Forceps, suture needle and scissors) for closing the incision.
5. Dressing set, fenestrated drape.
6. Antiseptic solution with anesthetic agent.

Un sterile equipment:

1. Container for drainage, preferably a calibrated bottle.
2. Adhesive tape.
3. Laboratory requesting form with test tubes.

Patient preparation:

1. Screen the patient.
2. Take the pulse.
3. Explain to patient what you are going to do to keep him quiet and immobile during procedure. *Assist*
4. Give the patient the bed pan and instruct him/her to empty the bladder. Report inability to void to the doctor before treatment begins.
5. Place patient in position for the treatment.
 - a. Sitting up in a chair
 - b. Sitting on edge of bed with back and feet well supported.
 - c. Fowler's position and close to edge of the bed.
6. Turn top covers down and place draw sheet over patient's legs and feet for warmth.
7. Expose abdomen by folding gown up over chest and shoulder, pin at back if necessary.
8. Prepare the site of puncture, wash the skin thoroughly with soap and water, and dry. Disinfect the area with antiseptic solution and shave if necessary.

Site of Paracentesis:

Midway between the umbilicus and the symphysis pubis in centre of abdomen.

Procedure:

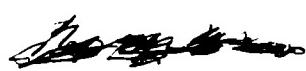
Assisting physician

1. Wash hands carefully before opening the set.
2. Cleanse top of procaine solution bottle with antiseptic sponge and hold the bottle so the solution can be withdrawn.
3. The doctor puts on rubber gloves, injects area with procaine, drapes area.
4. The doctor makes a small incision with the scalpel and inserts the trocar with cannula attached to the rubber tubing.
5. The nurse collects the specimens in sterile test tubes and places it in holder.
6. Watch patient carefully for signs of pallor, rapid pulse, dyspnea, strain or exertion.
7. Keep patient aware and well supported.
8. If the tubing is to be left in place, it must be adequately secured with adhesive tape and covered with a sterile bandage, the end of the tubing secured in the drainage bottle.

Observation

1. During the procedure and after, attention should be given to physical status; pulse, respiration and skin color of the patient.
2. The patient must be observed for untoward reaction associated with electrolyte imbalance.

3. Record the amount, color, odor, and viscosity of the fluid aspirated.
4. After the procedure, dressing should be checked frequently if ascites develops rapidly, the patient will need frequent changes of dressings, clothing and bedding.


J. J. G.

Paracent/4
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J. J. G.
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Ways & Ways THORACENTESIS

Definition:

Aspiration of fluid or air from pleural cavity.

Objectives:

1. Aid in diagnosis.
2. Remove accumulation of fluid in the pleural cavity.
3. May be done for therapeutic reasons.
4. Relieve symptoms.

Terminology:

Pleural cavity:

A potential space located between the visceral pleura covering the lung and the partial lining the rib cage.

Equipment:

Sterile equipment:

1. Large syringe 50cc
2. Small syringe with needle gauge 22 - 25 for anesthesia.
3. Needle (blunt) 15 gauge 2 - 3 inches long.
4. 2 way stopcock.
5. Gauze and cotton.
6. Sterile rubber gloves.
7. Drape or towels.
8. A skin antiseptic. *Local Anesthesia*
9. Bottles of 1% procaine hydrochloride.
10. Large calibrated bottle (clean) with stopper to which is attached 2-way stop cook. One opening is attached to a rubber tubing (sterile) which connects with needle in pleural cavity at time of insertion.

Non sterile equipment:

1. Adhesive tape.
2. Basin
3. Bath blanket
4. Stool
5. Container to hold test tubes.

Patient preparation:

1. Screen the patient.
2. Take the pulse.
3. Explain to patient what will occur to keep him immobile and quiet during the procedure and to allay his anxiety and promote co-operation.
4. Place the patient in one of these positions:
 - a. Sitting position: The patient's back is to the side of the bed.
 - b. Semi-recumbent position: Patient lies on side with two or three pillows for support.
 - c. Patient may be supported by the nurse or lean forward on over bed table padded with pillows.

(the fluid tends to localize in the base of body cavity, because of the gravity, and the up right position facilitates the removal of fluid).

Procedure (assisting physician):

1. Be sure that all equipment is ready
2. Separate patient's gown to expose ample area of site on affected side.
3. Place patient's hand of affected side on the opposite shoulder.
4. Protect shoulders with draw sheet.
5. Place stool if to be used.
6. Protect bed with rubber protector and towel
7. Examine skin area, and if necessary, wash thoroughly with soap and water and dry.

8. Wash hands.
9. Open the set.
10. The doctor puts on rubber gloves and drapes area.
11. The sites of perforation are the sixth or seventh inter costal space at the midaxillary line, and the seventh or eighth inter-costal space at the scapular line.
(the physician determines the site of puncture by previous percussion and auscultation of the fluid level).
12. The physician inserts the thoracentesis needle through the inter-costal space, into pleural cavity, the fluid is then withdrawn by direct aspiration with a syringe.
13. A three-way stop cock is used to remove the fluid from the syringe and still keep the system air tight. The needle may be connected to a negative - pressure drainage set-up if desired.
14. Apply pressure and dressings to permit the puncture site to seal itself. After the physician withdraws the needle, pressure and small dressing or band aid are applied to the puncture site.
15. Place patient on unaffected side after the procedure to prevent seepage caused by coughing or gravitational force and watch him for signs of syncope, expectoration of blood, also quality and rate of pulse.
16. Measure the total amount of fluid aspirated.
17. Send specimens with correct labeling and laboratory form to designated laboratory.
18. Clean the articles and place on designated place for pick up by central supply.

Record :

1. On nurse's notes.
- a. Amount and character of fluid withdrawn
 - b. Time and name of the treatment
 - c. By whom the treatment was performed
 - d. The reaction and condition of the patient to the treatment.
 - e. Time and laboratory to which specimens were sent.

HOT AND COLD APPLICATION

Definition: *ایس یا چیزی که برای تغییر در دمای بافت استفاده می‌شود.*

Physical agent applied to an area of the patient's body which bring about a change in tissue temperature.

Also Terminology:

Compress - Several layers of moist, absorbent cloth or gauze folded to cover a small body area.

Diathermy:

High - frequency currents used to produce heat in body tissue.

Pack :

Moist cloths or dressings applied to a large body area.

Soak :

Placing a part of the body in water or in a medicated solution.

The cold compresses :

A. Cold types: *یخ و گل*

1. The ice bag
2. The ice collar
3. The ice compress
4. The cold pack
5. Alcohol and cool water bath
6. The hypothermic blanket.

Purposes :

1. To relieve discomfort
2. To limit inflammation and suppuration.
e.g. limit edema.
3. To control bleeding

How to apply moist compress.

Equipment needed:

1. Tray for articles
2. Water of prescribed temperature.
3. Basin
4. Compresses of gauge or other cloth material sufficiently large to cover the area adequately.
5. A waterproof sheet
6. Bath thermometer.

6 IMPORTANT STEPS

1. Wash your hands "Medical asepsis is used most often - but sterile technique is prescribed sometimes, so that all supplies should be sterile and hands should be gloved e.g. eye and opened wound".
2. Prepare compresses.
3. Place an appropriate amount of water of the prescribed temperature in a basin and immerse the compresses, in the cooled water.
4. Spread waterproof sheet under the treated part.

5. Wring out the compresses thoroughly to avoid dripping on the patient which is uncomfortable and may wet bed cloths and linens.
6. Place the compress on the affected area gently
7. Change the compresses frequently enough, so that they are cool. Have one compress cooling in the container of water, while using the other. Usually the patient can tell you when he feels the compress is becoming warm.
8. Continue applying compresses as ordered, usually for 15 - 20 minutes 4 - 5 times/day.
9. Dry the patient as necessary after completing the procedure
10. Record that compresses were applied, length of time and side
11. Clean the articles used. Return to it's proper place.

HOW TO FILL AND APPLY AN ICE BAG

Equipment needed

1. Ice bag or ice collar
2. Ice bag cover (or face towel and safety pins)
3. Crushed ice (size of walnut).

IMPORTANT STEPS

1. Prepare ice cubes.
2. Fill ice bag or collar about half full with crushed ice.
3. Press out air with one hand, and fold down top if stopperless bottle.
4. Wipe ice bag dry.
5. Examine and test for leaks.
6. Put ice bag in cloth cover.
7. Apply to affected part with metal top turned away from patient's body
8. Refill before all the ice bag has melted.
Check after one half hour.
9. When use of ice bag (or collar) is discontinued.
 - a. Remove cover and place in laundry
 - b. Drain, wash in warm water, rinse well and dry.
 - c. Allow enough air to enter to separate sides and screw on top.
 - d. Return to proper place

The hot compresses :Types of hot application

1. The hot water bottle (H.W.B.)
2. The electric pad.
3. The infrared lamp
4. The bather (heat cradle)
5. Steam inhalation
6. The hot compress
7. The hot pack
8. Body soak

S.O.L.

9. The therapeutic bath
10. The ultraviolet lamp *الأشعة فوق البنفسجية*
11. Diathermy

Purposes :

1. To promote wound healing
2. To relieve discomfort
3. To relieve tension muscle. *المышكل*
4. To relieve congestion in remote tissue *العصب*
5. To warm a part of the body.
6. To reduce edema *الاحقاف*

How to apply hot moist compresses

Equipment:

1. Tray for articles
2. Hot-water bag
3. Compresses
4. Lubricant
5. Waterproof sheet
6. Basin for hot water
7. Bath thermometer

Important steps

1. Prepare pieces of woolen, flannel or gauze material sufficiently large to cover the area.
((Absorbent and loosely woven fibers hold moisture)).
2. Prepare a hot-water bag, heating pad, or other heating device to keep the application hot.

- " External heat continually applied to the moist application will slow cooling".
3. Immerse the pack in hot water until they are saturated.
" The woolen or flannel material absorbs the water slowly".
4. Explain in simple terms to the patient " You need him to tell you about the temperature".
5. Position and drape the patient appropriately " Placing the body in proper alignment adds to the patients' comfort. The patient should be kept warm and draped to avoid embarrassment and invasion of privacy".
6. Prepare the patients' body so that no time will be wasted in applying the pack after it is removed from the hot water, place a dry pack and waterproof cover under the extremity or near the area where the pack is to be applied.
The dry pack will cover the moist one and the waterproof cover will be on the outside.
((The dry pack and the waterproof cover will act as insulation and will prevent rapid heat and moisture loss from the wet pack)).
7. Lubricate the skin in the area of application if the skin is not broken.
((Petroleum acts as an insulator and delays the transmission of heat. This help prevent burning the patient and protects the skin)).

8. Immerse the packs in hot water until they are saturated.
((Allowing the material to become saturated provides even heat by avoiding dry area in the pack.))
9. Wring the hot wet packs as dry as possible.
((Saturated compress can burn the patient with water)).
10. Shake the compress once or twice quickly
((Incorporating air into the material acts as an insulator to help keep the compress warm to prevent burning the patient)).
11. Place the compress on the skin lightly and after a few seconds lift the pack to inspect the patient's skin for degree of redness
((Watching the skin closely before wrapping the outside compress around the wet compress helps prevent burning the patient))
12. Wrap the compress around the area, and mold it to the skin surface.
((Air spaces between the skin and compress will reduce the effect of the application))
13. Cover the moist compress with the dry compress and waterproof material. Secure in place with safety pins or ties.
((Insulation and covering help prevent heat and moisture loss)).
14. Apply the hot-water bottle, heat lamp or heating pad to the area in a manner, so the weight is not increased over the area
((External heat will help maintain the compress temperature. The weight of heat supply (H.W.B.) can cause fatigue and discomfort.))

15. Allow the compress to remain in place for the prescribed period, usually 1 - 2 hours
((If heat is applied too long, the effects of heat become almost opposite from the initial effects)).
16. Keep the patient warm and out of drafts during and after removal of the compress.
((Coolness and drafts may negate the desired effects of the heat applications, and cause discomfort for the patient)).

Points to remember:

1. Temperature ranges classified as follows:
 - a. Very hot $40.5^{\circ} - 46.1^{\circ}\text{C}$ $105 - 115^{\circ}\text{F}$
 - b. Hot $36.6^{\circ} - 40.5^{\circ}\text{C}$ $98 - 105^{\circ}\text{F}$
 - c. Natural $33.8^{\circ} - 36.6^{\circ}\text{C}$ $93 - 98^{\circ}\text{F}$
 - d. Cold $21.1^{\circ} - 33.8^{\circ}\text{C}$ $70 - 93^{\circ}\text{F}$
 - e. Very cold $4.4^{\circ} - 21.1^{\circ}\text{C}$ $40 - 70^{\circ}\text{F}$
2. The duration for application of compresses on areas are:
 - a. The face, forehead, neck, arms and legs 3 - 5 minutes
 - b. The back 10 minutes
 - c. The anterior chest and abdomen are not sponge
 - d. Short bath duration is 25 - 30 minutes
3. Heat application is contraindicated in:
 - a. Patient with an acute inflammation
 - b. Patient with malignant tumors
 - c. A patient who is a candidate for hemorrhaging
 - d. An infection where bacteria may have created pockets of gas

4. Special care is indicated for very weak, unconscious and insensitive patient.
5. Moisture conducts heat better than air
6. People become less sensitive to repeated application of heat and cold.
7. People vary in their ability to tolerate heat and cold. People at both extremes of the age spectrum that is the very old and the very young are particularly sensitive to heat and cold.
8. The thickness of the material used will depend on the area to which the compresses will be applied.
9. Screen bed if location of treatment makes it necessary.
10. Watch patient's skin closely for signs of redness or bluish.
11. When the purpose of application is to change body temperature, the site of choice is on large superficial vein e.g. groin.

The choice of the kind of application:

It depends upon a number of factors:

1. The purposes of the application.
2. The age of the patient and condition of his skin.
3. The general physical health of the patient
4. The area of the body affected.
5. The duration of the treatment.
6. The availability of equipment.

ASSISTING WITH PHYSICAL EXAMINATION

Personal and Medical History are taken on admission of the patient by intern or resident. This is done within the first 24 hours after admission.

The general physical examination follows the taking of the History.

Purpose of the physical examination done on the patient who comes into the hospital is to aid the physician in making a diagnosis.

Nurse's Duties:

A. Preparation of the patient

1. Explain to patient what will be done, in order to gain his cooperation and to relieve fear and tension.
2. Be sure patient is clean. Admission bath is required on all patients in some hospitals.
3. Have patient void before examination.
4. Have patient remove all clothing except hospital gown.
5. Fanfold top linen to foot of bed, and cover patient with sheet (or sheet and blanket, if weather is chilly).
6. Be sure room is warm and free of drafts. Examination may be done in patient's unit or in special examination room.
7. Provide for privacy.

B. Preparation of Equipment

1. Collect all necessary equipment and place on tray.
2. Check to see that all equipment is in good working condition.

- a. Ophthalmoscope
- b. Otoscope
- c. Head mirror
- d. Flash light
- e. Stethoscope and sphygmomanometer
- f. Tape measure
- g. Tongue depressors
- h. Turning fork
- i. Skin pencil
- j. Percussion hammer
- k. Paper tissues.
- l. Emesis basin
- m. Bath towel.

C. Nurse's Duties During physical Examination:

- 1. T.P.R. and B/P are usually taken by the nurse during the admission procedure
- 2. Height and weight, if requested by the Doctor or taken by the nurse before the doctor begins his examination.
- 3. Bring all equipment for physical examination to the patient's unit at one time.
- 4. If a patient is female, the nurse remains with the patient during the entire examination
 - a. To make the patient feel more at ease
 - b. To protect the physician in case of false claims against him.
- 5. Assist physician by anticipating his needs and supplying them without delay.
- 6. Help patient into desired special positions during the examination.
 - a. Erect position - normal standing position
Used to inspect body posture and extremities.

- b. Dorsal recumbent position - used for examination of the vagina or rectum.
- c. Lithotomy position - The patient is placed in the same position as dorsal recumbent, except that the legs are well separated and the thighs and the legs more acutely flexed. This position is used for examinations of urinary tracts, vagina, cervix rectum and perineum.
Because the lithotomy position is an embarrassing one for most patients. It is important that adequate drapes be provided. One way of draping the patient is to place a drawsheet across the patient so that the lower border is 4 inches below the symphysis pubis. Then each of the lower corners of the drawsheet are brought to the medial aspect of patient's thigh and tucked around the patient's legs when upper fold of the drawsheet is lifted the patient's perineum is exposed. The nurse should also provide the patient with a covering for the upper part of the body.
- d. Sims position - Used for digital (finger) examination of the rectum or vagina
- e. Knee - chest position - This position is used chiefly in examinations of the rectum and colon, in this position the patient kneels with the buttock upwards. The patient's chest and head rest upon the bed surface.
It is important that the patient who assumes this position be adequately draped

in order to prevent embarrassment and to provide warmth. If the health agency does not have special drapes, the nurse can improvise with a draw sheet is placed across the patient, so that the lower edge just cover the buttocks. The corners are tucked around the medial aspect of the patient's thighs by raising the fold of the sheet, the anal area is exposed.

7. Drape patient properly
 - a. to avoid exposing the patient
 - b. to keep the patient warm
 - c. so that the sheet does not interfere with the examination.
 8. Assist with obtaining specimens.
- D. Nurse's Duties after examination
1. After care of patient
 2. After care of equipment and specimens
Thoroughly clean and properly disinfect all equipment.
Send specimens to laboratory with complete requisition sheets and labels.

Special Examinations:

Before general physical examination begins, find out from doctor if rectal or vaginal examination will be done.

A. For rectal examination:

1. Equipment
 - a. Clean rubber gloves, powder, lubricant.
 - b. Speculum (An instrument which stretches or enlarges an opening) may or may not be used

- c. Test tubes, slides, cotton applicators for obtaining specimen.
- 2. Preparation of patient.
 - a. Cleansing enema
 - b. Dorsal - recumbent or sim's position
- B. For vaginal examination:
 - 1. Equipment
 - a. Clean rubber gloves, powder, lubricant
 - b. Vaginal speculum
 - c. Test tubes, slides, cotton applicators for obtaining specimen

General methods of observation during physical examination

- 1. Inspection - with eye
- 2. Percussion - tapping an area of body with finger tips or percussion hammer.
- 3. Palpation - feeling with fingers or hand
- 4. Auscultation - hearing, usually with aid of stethoscope, to internal sounds as heart and lung sounds.
- 5. Manipulation - moving or trying to move a part.

Order of Examination :

- 1. General observations : Body build and stature, state of nutrition, posture and gait, nature of speech, mental and emotional reactions, color of skin, distribution of hair, etc.

2. Head and neck - Head and neck palpated for nodules, thyroid gland, larynx, trachea
3. Eyes, ears, nose, lips, mouth, throat
4. Breasts
5. Chest, anterior and posterior (X-ray or electrocardiogram (E.C.G.) may be done if indicated).
6. Abdomen (learn four quadrants of abdomen)
7. Genitalia, perineum, anus, rectum.
8. Legs, both together as comparison, examined for deformities, circulatory disturbances, and skin lesions. Also reflexes.

moistening
dry - nonadherent
wet - moistened
extremal moisture: no solid vegetal
and no normal skin surface - moistened
is active cellular damage - soft tissue
or chronic dermatitis - non-perturbant
dry - dry skin

dry - dry skin
wet - moist skin
extreme moisture - soft tissue
or chronic dermatitis - non-perturbant

ISOLATION TECHNIQUE
(COMMUNICABLE DISEASE CONTROL)

Definition of Isolation Technique:

Measures instituted to prevent the spread of microorganisms among hospital, patients, staff and visitors.

Types are:

1. Strict isolation: used to prevent the transmission of highly communicable diseases which may be spread by either direct or airborne means which possibly cause death e.g. Diphtheria, small pox, Rabies.
2. Respiratory isolation: used to prevent transmission of organism by direct contact or from droplets that are coughed sneezed, or breathed into the environment e.g. meningococcal meningitis, pulmonary tuberculosis.
3. Protective isolation: Used to prevent contact between potentially pathogenic microorganisms and uninfected persons who have impaired resistance e.g. sever Dermatitis such as impetigo.
4. Enteric precaution: Used to prevent the transmission of microorganism through contact with faeces e.g. cholera, Hepatitis, Typhoid fever.
5. Wound and skin precaution Used to prevent personnel and patient from contracting infections via direct contact with wounds or heavily contaminated articles e.g. impetigo.

6. Saliva:

Objectives:

1. Objective of strict isolation, respiratory isolation enteric precaution and wound and skin precaution:
 - a. To control and prevent the spread of infection.
 - b. To provide physiological support and symptomatic relief.
 - c. To teach the patient, visitors, and ancillary hospital personnel the essential of infection prevention and control.
 - d. To prevent fear and illness of the patient while promoting his comfort and safety.
2. Objectives of protective isolation:
 - a. To protect the patient from cross-infection by strict adherence to isolation precautions.
 - b. To provide physiological support and symptomatic relief.
 - c. To assist the patient, family and visitors in acceptance of an adherence to isolation procedures by thorough explanation and positive reinforcement.
 - d. To prevent fear and loneliness of the patient while promoting his comfort and safety.

Equipment used in Isolation Unit:

1. Strict isolation and respiratory isolation
 - a. In the room.
 1. Three lined wastebaskets (one at the door, one in the bathroom, and one at the bed side) to receive contaminated tissues.
 2. Paper towels in the bathroom dispenser.
 3. Germicidal soap in the bathroom.
 - b. Outside the room.
 1. Strict or respiratory isolation card on door.
 2. Box of disposable masks.
2. Protective Isolation
 - a. In the room
 1. Lined wastebasket at the door
 2. Sphygmomanometer and stethoscope be clean and should be left in the patient's room until isolation is terminated.
 3. Thermometer should be cleaned, disinfected, and be ready for reuse.
 4. Mattresses and pillows should have plastic covers and should be cleaned with disinfectant or autoclaved and kept clean as available.
 - b. Outside the room.
 1. Protective isolation card on door
 2. Isolation trolley or table containing masks, clean or sterile gowns, caps, and shoe covers.

3. Enteric precautions

a. In the room.

1. Soap and wooden sticks for hand washing

2. Lined wastebasket in bathroom and at door

3. Thermometer

b. Outside the room

1. Enteric precaution card on door

2. Isolation cart containing gowns, gloves, impervious paper or plastic bags for dressings, and linen bags marked "Isolation".

4. Wound and skin precautions

a. In the room

1. Lined wastebasket at bed side and in bathroom

2. Antiseptic soap for handwashing.

3. Thermometer

b. Outside the room

1. Wound and skin isolation card on door

2. Isolation table putting on it clean gowns, masks, and gloves, and linen bags marked "Isolation".

Personal contact precaution

Hand washing:

Follow the hand washing procedure. Hand washing is the single most important means of preventing the spread of microorganism. The hands should be washed before and after contact with each patient or with his secretions and excretions.

Gown :

When gowns are necessary, individual gown technique is recommended. This means that gowns are worn only once, and then discarded for disinfection and reuse. Disposable gowns are destroyed in an appropriate manner.

Gowns that are used for isolation technique are made of washable or disposable material. Most are made to be worn over the outer garments of the wearer. They are designed with the opening in back and a tie around the waist to help keep the gown secure and closed. They may have buttons or tie strings at the neck. These minor variations do not affect the use or the value of the gown. All have the same purpose of protecting the clothing of those who come in contact with the patient from contamination.

Supplies of gowns should be available outside the immediate patient environment. This allows the wearer to put on before entering the patient's unit. There is no special way in which a clean gown must be put on. However, it should be closed well in the back, so that all parts of the wearer's clothing are covered.

When the wearer is ready to leave the unit, the gown is unfastened and removed by turning it inside out. The wearer takes off the gown and rolls it up so that the contaminated part is inside. Then the gown is discarded in a special hamper provided for it. The wearer now washes her hands thoroughly.

Masks :

Masks serve as a barrier in carrying for a patient who has a communicable disease which can be transmitted via the respiratory tract.

The mask is intended to filter inspired and expired air in order to trap organisms in its meshes. The purpose of the mask should be understood by the wearer. For example, if a patient has active pulmonary tuberculosis, it is recommended that he wears the mask to provide barrier for the pathogens he may exhale.

(When masks are used, they should be stored with the gowns outside the patient's unit, and put on before persons enter the room. They should cover both the nose and mouth, and be worn only once. Masks are of no value and danger to the wearer when they are lowered around the neck.

Moisture makes masks ineffective. Therefore, they should be removed and appropriately discarded as frequently as necessary to keep them dry.)

Gloves :

Gloves may be worn in some situations during certain phases of patient care. They may be used as a barrier when the nurse handles wound dressings or when she carries out treatment if drainage is present.

Hair and shoe covers :

Hair and shoe covers are not used generally except in some protective precautions. When hair covers are worn, they should cover all hair on head. Shoe covers should protect the shoes as well as the open ends of trouser legs.

Excretion and secretion precautions:

Organism can escape from the host through body secretions and excretions. Urine, faeces, and respiratory, oral, vaginal, and wound drainage may require special precaution.

Urine and faeces may need to be treated before disposal into the sewage system. This precaution is unnecessary in those communities in which the sewage system is adequate for the destruction of organisms.

The safe practice to empty the bed pan is to rinse it thoroughly with cold water, wash it with soap or detergent and water, if necessary , and sterilize it with steam under pressure before reuse by another patient. Disposable bed pans and urinal are preferred.

Tissue wipes and other items may be contaminated by wound, mouth, nose, or vaginal drainage.

The usual technique is to place the contaminated materials in a water proof bag and then double bag it. The entire bag is then discarded by incineration or other methods of the agency's choice.

Equipment and supplies precaution :

Equipment and supplies contaminated by pathogens can become vehicles for infection transmission if effective barriers are not developed. Common equipment used in providing patient care should be left in the patient room whenever possible for his exclusive use. Examples include sphygmomanometer and stethoscope and thermometer.

Disinfection of such equipment should be done in an appropriate manner.

The extensive use of disposable equipment like syringes needles etc. make the safe handling of contaminated supplies much easier.

For items of clothing that are not washed easily in a machine, airing in sunlight for six to eight hours is effective against many organisms.

TERMINAL CLEANING OF THE PATIENT'S UNIT**Definition:**

The cleaning and disinfection of the unit and its contents after it has been evacuated by the patient.

Purposes:

- a. To prevent cross-infection
- b. To prepare the unit for a new admission

Equipment:

1. Cleaning basin containing hot water
2. Cleaning cloths
3. Scouring powder
4. Soap
5. Newspapers
6. Brush

Procedure:

1. Open the windows to air unit whenever possible
2. Dispose of trash and remove all unnecessary articles
3. Care of Bed: Remove pillow cases and put pillows on chair. Loosen bedding all around bed. Remove one piece of linen at a time; look for articles belonging to patient; then fold or roll linen (with soiled surface inside) and place in laundry hamper.
4. Strip bed completely and place muslin mattress cover, if any in laundry. Place rubber sheet on back of chair.

5. Remove all articles from bed side-table to utility room.
6. Place cleaning equipment on bed-side-table
7. Spread newspapers on floor under bed.
8. Dampen brush with soap and water.
9. Brush top surface of mattress with dampened brush.
10. Fold cotton mattress to foot of bed. Brush exposed surface with dampened brush.
11. Raise headrest of bed, if possible. With cloth wrung from warm soapy water, wash springs and bed frame.
12. Lower headrest. Unfold mattress and fold lower half to head of bed.
13. Brush exposed surface of mattress toward foot of bed with dampened brush.
14. Place rubber sheet on springs. Wash with dampened cloth. Dry well. Turn onto mattress (Clean side down) and wash other side. Dry well and hang over head of bed.
15. Place pillows on springs. Clean with dampened brush. Turn onto mattress (clean side down) and clean other side.
16. Elevate knee rest of bed, if possible. Wash lower half of bed frame and springs.
17. Lower knee rest. Unfold and turn back mattress.
18. Dust and clean casters, if present.
19. Leave bed to air for several hours, if possible.
20. Care of the chair and bed side table:
Protect the floor with newspapers.
21. Wash all surfaces of the chair with soap and water and dry thoroughly.

22. Put basin and cleaning equipment on floor (protected with newspapers). Wash bed side table inside and outside including table drawer.

After care of the cleaning equipment:

1. Remove equipment to utility room.
2. Discard newspapers.
3. Clean and replace equipment according to hospital policy.

Final care of the bed side unit:

1. Make bed.
2. Clean and disinfect bed side table equipment according to hospital policy.
3. Replace articles for personal care:
 - a. Water pitcher and glass
 - b. Wash basin
 - c. Soap dish
 - d. Emesis basin
 - e. Mouth wash cup
4. Make sure unit is in order and ready for new patient.

Points to remember:

1. Report any property that is found left in the unit.
2. Do not shake soiled linens and cause spread of dust and germs.
Always hold soiled linens away from your clothing.

3. Sun and air the mattress; pillows and blankets, when possible. If blankets are grossly soiled, they should be sent to laundry. separate from the rest of the bed linens. If mattress has a rubber protective cover it should be cleaned the same way as for other rubber article and dried thoroughly.
4. Change cleaning water when it becomes dirty or too soapy.
5. When brushing the mattress, do not overlook seams and sides. See that they are free from dust.
6. When using brush, clean with the direction of action away from you. This keeps germs on dust partial away from your hair and face.
7. Inner spring or foam rubber mattress should not be folded in half. Rather, turn mattress crossways onto foot end of bed, then onto head.
8. If possible, allow unit to air a few hours before making the bed.

DAILY CARE OF THE PATIENT'S UNIT

(Concurrent Care)

Definition:

The provision of clean, comfortable, safe and pleasant surroundings in the patient's immediate environment.

Purpose:

- To prevent cross-infection.
- To assist in an early recovery through the psychological benefits.

Procedure:

- Keep the floors clean and dry. Wipe up immediately anything that is spilled on the floor such as water, food, vomitus.
- Return any equipment which is not in use to proper place.
- Keep the radiators, window sills and chairs clear of any articles, if possible.
- Keep the tables clean and free off unnecessary articles.
- Keep the beds and tables in alignment and away from the wall. Keep the wheels on the bed turned in and crank handles on the bed frame down, out of the way.
- Adjust the lighting to the best advantage for the patient's comfort. Avoid glaring light in patient's eyes. Adjust the window shades, if any, or curtains neatly and uniformly when this does not interfere with good lighting. Replace burned-out bulbs at once.

7. Adjust the ventilation; avoid having the patient in a draft. If possible, regulate the temperature and humidity to maintain a constant comfortable level.
8. Remove the cause of unpleasant odors promptly, whenever possible.
9. Report any defective equipment such as electric cords and appliances, or defective plumping watch for end report frayed electric cords on floor, and for loose connections.
10. Prevent unnecessary noise such as loud talking, dropping and banging of articles. Encourage patient to avoid talking loudly
11. Keep alert for and remove or report to nurse incharge, any accident or fire hazard.
12. Wash beds, tables, chairs at regular times as instructed. Change screen covers regularly. Dust light fixtures and light bulbs daily; wash shades and globes at regular intervals. Do not use a wet cloth on electric fixtures or polished furniture.
13. Develop a system of work to save time and energy, but that does not result in over-causalness in the importance of cleanliness.

BLOOD DIAGNOSTIC TESTS

	Name	Normal range	CC
1.	Hemoglobin HB	Male 13-16 gm/d Female 12-14 gm/d	2.5
2.	White blood cells	5,000-10,000cc	2.5
3.	Red blood cells R.B.C	Male 4,600,000- Female 4,200,000- 5,400,000	per cubic mm
4.	Fasting blood Sugar F.B.S.	60-120mg/100ml	2cc
5.	Erythrocyte Sedimentation Rate E.S.R.	Male 0-9mm/Hr Female 0-20mm/Hr	2cc
6.	Prothrombin time P.T.		2cc
7.	Partial thromboplastine P.T.T.		2cc
8.	Clotting time	5-10 min	2cc
9.	Bleeding time	30Sec-6min	
10.	Serum Sodium	135-155mEq/L	2cc
11.	Serum Potassium	3.5-5.5mEq/L	2cc
12.	Serum Chloride	95-107mEq/L	3cc
13.	Serum Urea	20-50mg/100ml	2cc
14.	Serum Creatinine	0.7-1.4mg/100ml	6cc
15.	Serum lactic Dehydrogenase L.D.H.	56-175 l.U./L	2cc
16.	Serum Glutamic oxalo-acetic Transaminase S.G.O.T.	7-40 l.U/L	2cc
17.	Serum Glutamic Pyruvic Transaminase S.G.P.T.	7-40 l.U/L	2cc
18.	Serum Cholesterol	140-250mg/100ml	3cc
19.	Serum Uric acid	Male 2.5-7mg/100ml Female 2.5-6.5mg/100ml	4cc
20.	Serum Bilirubin	0.2-1.0mg/100ml	3cc

Name	Normal range	CC
21. Serum Phosphorous	2.5-4.5mg/100ml	3cc
22. Serum Calcium	8.8-10.5mg/100ml	10cc
23. Serum Alkaline phosphate	30-100 1.U/L	3cc
24. Serum Albumin	3.6-5.2gm/100ml	3cc
25. Total Iron	60-160mg/100ml	10cc
26. Bromsulphalein BSP	Upto 5%	10cc
27. Albumin	50-70%	5cc
28. Serum Globulin	1.7-3.9gm/100ml	5cc
29. Total Serum Proteine	1.7-3.9gm/100ml	5cc
30. Latex		3cc
31. ANF		3cc
32. Venereal disease Research laboratory VDRL		3cc or 3
33. Mean corpuscular Volume MCV	80-94cu.microns	2cc
34. Mean corpuscular Hemoglobin MCH	27-32U.Ugpercell	
35. Mean corpuscular Hemoglobin concentration MCHC	0.5-1.5%of red cell	
36. Antihemophilic factor AHF		
37. Phenolsulfonphthalein PSP		
38. Phenylketonuria PKU		
39. Oruithine carbamyl transferase OCT	8-20M/U/ml	
40. Widal Test		2cc
41. Iron Binding capacity I.B.C.	260-410Ug/100ml	10cc
42. T3 Uptake	25-35%	4cc
43. T3 Trilodothyronine		4cc
44. T4 Thyroxine	4.5-11.5Ug/dl	4cc
45. T4 Thyroxine Free	1.0-22rg/dl	4cc
46. Thyroid Stimulating hormone TSH	0.10ULV/ml	
47. Thyroid Binding Globulin T.B.G.	10-26Ug/dl	

References:

1. Brunner, L. S. and Suddarth, D. S. (1980) : Textbook of Medical Surgical Nursing. 4th ed. J. B. Lippincott Co. Philadelphia.
2. Brunner, L. S. and Suddarth, D. S. (1982) : The Lippincott Manual of Nursing Practice. 3rd. ed. J. B. Lippincott Co Philadelphia.
3. DuGas , B. W. (1983) : Introduction to Patient Care. 4th. ed. Saunders Co. Philadelphia.
4. Elhart, D. and others. (1978) : Scientific Principles in Nursing. 7th. ed. The C. V. Mosby Co. Saint Louis.
5. Furest, E. V. et al. (1974) : Fundamentals of Nursing. 5th. ed. J. B. Lippincott Co. Philadelphia.
6. Gragg, S. H. & Rees, O. M. (1974) : Scientific Principles in Nursing. C. V. Mosby Co. Saint Louis.
7. Henderson, V. & Nite, G. (1978) : Principles and Practice of Nursing . 6th. ed. Macmillan . Newyork.
8. King, E. M. et al. (1981) : Illustrated Manual of Nursing Techniques. 2nd. ed. J. B. Lippincott. Co. Philadelphia.
9. Lewis, L. W. (1980) : Fundamental Skills in Patient Care 2nd. ed. J. B. Lippincott Co. Philadelphia.
10. McClain, M. E. & Gragg, S. H. (1970) : Scientific Principles in Nursing. 6th ed. The C. V. Mosby Co. Saint Louis.

11. Olson, L. M. (1960) : A Nurses Handbook for Hospital, School & Home. 10th. ed. W. B. Saunders Co. Philadelphia.
12. Price, A. L. (1968) : The Art, Science and Spirit of Nursing. 3rd. ed. W. B. Saunders Co. Philadelphia.
13. Rambo, B. J. & Wood, L. A. (1982) : Nursing Skills for Clinical Practice, 3rd. ed. W. B. Saunders Co. Philadelphia.
14. Tabbner, A. R. (1981) : Nursing Care ; Theory & Practice, Livingstone , Melbourn.
15. Wolff, L. et al. (1983) : Fundamentals of Nursing. 7th. ed. J. B. Lippincott Co. Philadelphia.